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Asbestos/Rock Quarries - Mapping of Oregon Quarries Located within 10 Miles of Serpentinite Rock Deposits

Research Triangle Inst, Research Triangle Park, NC

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Environmental Protection Agency, Research Triangle Park, NC Office of Air Quality Planning and Standards

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Asbestos/Rock Quarries - Mapping of Oregon Quarries Located Within 10 Miles of Serpentinite Rock Deposits

by

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Contract No. 68-02-2612

EPA Project Officer: Gilbert Wood

Emission Standards and Engineering Division

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air, Noise, and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

January 1979

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16. ABSTRACT

Topographical maps of serpentinite outcrops and published data and reports were used to map 650 crushed stone quarries located within 10 miles of known serpentinite deposits.

Based on field reports 24 quarries were indicated as potentially bearing asbestiform minerals. In addition, 29 other quarries were indicated as probable asbestiform bearing.

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INTRODUCTION

The use on roadways of unbound (without a coating or binding agent) crushed stone containing serpentinite has been shown to result in elevated concentrations of airborne asbestos. The Environmental Protection Agency (EPA) is studying the crushed stone industry to determine the extent to which crushed stone quarries are being operated in areas containing serpentinite rock deposits. Lists of rock quarries located near serpentinite rock deposits have been compiled from maps of the United States Geological Survey showing serpentinite rock deposits and maps of quarry locations from the United States Bureau of Mines. However, in the State of Oregon, the multiplicity of rock quarries which exist but are not plotted on the maps necessitated that special investigations be made to map Oregon rock quarries.

Under Task Assignment No. 60 (Contract No. 68-02-2612), the Research Triangle Institute (RTI) engaged the services of the Oregon State Department of Geology and Mineral Industries to obtain:

1. a serpentinite map of the state of Oregon,
2. plots of all known quarries within ten miles of the serpentinite deposits, and
3. a brief description of each quarry.

A report meeting these objectives was received by RTI from the State of Oregon in December 1978, and is included here as Appendix A.

CONCLUSIONS

Based on the topographical maps of the serpentinite outcrops, published rock inventory studies and Mined Land Reclamation Division data base, 650 quarries were identified as being located within 10 miles of known serpentinite deposits.

These quarries were screened for potential presence of asbestiform minerals from earlier field visit reports, and other published geological reports. Out of the 650 quarries, 597 were ruled out as suspect quarries since they contained rock types where asbestiform minerals would be very unlikely to be found. From the remaining number, 24 quarries contained rock types where there was a good chance of asbestiform minerals to be found or where asbestiform minerals were identified, and 29 quarries containing rock types which occasionally would contain asbestiform minerals. Serpentinite rock was of primary significance to this study. Blueschist and Greenstone deposits, where known, were also included due to possible association with asbestiform minerals.

Of the 24 quarries most likely to contain asbestiform minerals, 4 are known to be active, 13 are known to be inactive, and for the remaining seven no information was available. Of the 29 probable quarries, seven were active, 18 were inactive and the status of the other 4 was unknown. Ownership information was listed where known.

APPENDIX A

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1069 State Office Building
Portland, Oregon 97201

OPEN-FILE REPORT O-78-5

RECONNAISSANCE STUDY OF OREGON'S STONE QUARRIES AND ABSESTIFORM MINERALS OCCURRENCES WITHIN TEN MILES OF SERPENTINITE

by

Jerry J. Gray, Economic Geologist
Oregon Department of Geology and Mineral Industries

1978

RECONNAISSANCE STUDY OF OREGON'S STONE QUARRIES AND ASBESTIFORM MINERALS OCCURRENCES WITHIN TEN MILES OF ULTRAMAFIC ROCK

by

Jerry J. Gray

Introduction and Purpose

During October, 1977 the Department of Geology and Mineral Industries was contacted by the U.S. Environmental Protection Agency and asked for the locations of quarries in or near serpentinite. The Agency needed the information because of possible health hazards of asbestiform mineral emissions in air resulting from the use of unbound crushed stone in roadways. Because of the great number of quarries involved the Department did not have the funds to supply the information. In June the Environmental Protection Agency made $3,000 available for the Department to do an inventory of all quarries within 10 miles of serpentinite. The locations of both quarries and serpentinite outcrops were to be plotted on a map and a table was to be prepared which would give a brief description of each quarry. The purpose of this study is to supply those three items.

Study Methods and Parameters

The starting point for this study was two topographic-geological maps, showing the State's serpentinite outcrops, from Ramp's (1978) nickel report. Serpentinite occurs in two parts of Oregon: the Blue Mountains in northeastern Oregon and the Klamath Mountains in southwestern Oregon. From the Department's published rock material inventory studies and from its Mined Land Reclamation Division data base, quarry locations were transferred to the topographic-geological base maps. Asbestiform mineral occurrences locations were taken from Wagner and Ramp (1969) and also plotted on the base maps. A number was given to each site which corresponds to the number listed in the survey data table for that map. The Mined Land Reclamation's data base and the latest and largest scale geological reports and maps were used to supply other data to the survey data tables. No field visits were made.

Site Location Maps

The scale for the two topographic-geological base maps is 1:250,000. This was the smallest scale that could be used. A smaller scaled map would not have had room for plotting all of the sites. The northeastern map (plate 1) had 101 sites and the southwestern map (plate 2) had 549 sites, for a total of 650 sites. The first source for site locations was the Department's published inventory report such as the one for Curry County (Ramp, Schlicker, and Gray - 1977), Josephine County (Schlicker, Schmuck and Pescador - 1975) and Umatilla County (Schlicker, Schmuck, and Gray - 1976). The second source was the field maps used by the Division of Mined Land Reclamation. The sites were transferred from each of the sources to the topographic-geological base map through the use of a pair of proportional dividers.

By glancing at the maps it can be seen that those counties with published reports have a higher density of sites than those without. Many more quarries exist in the other counties. At this time the Department does not have records of them. A ground serarch might turn up about twice the listed numbers. A ground search for them was beyond the scope of this report.

The numbering system used for both maps was to start at the west side of the furthest township to the north. The numbers follow that township to the east, move back to the west end of the next township to the south, and move again to the east. After all sites were plotted on the southwestern map other Mined Land Reclamation data sources showed that 6 sand and gravel sites had been plotted as stone quarries. These sites were removed and the numbers voided. Other Mined Land Reclamation data turned up 23 additional stone quarries. These were added to the map and given the same number, but with an "a," as its closest neighbor. Two symbols were used on the maps, a triangle for stone quarries and a hexagon for occurrences of asbestiform minerals.

Survey Data Tables

A site is listed, on Table 1 or Table 2, Appendix A-1 and A-2, by its number, by its county, and by a legal description down to the section. If the site has been given a number by the Division of Mined Land Reclamation it will be shown in the next column. Information filed under this number at the Division may range from an application form to a formal reclamation plan, which would include a bond. The next number that the site might be identified by would be from one of the published inventory studies. After the columns that list identification numbers the next column heading is for rock type. Again, because each of the sites listed in one of the published reports were visited in the field, information from these reports for quarry rock types was used where possible. The next source was the Division data base. The last source was published geological reports and maps. The latest report and the one with the largest scaled map was used. The status column was completed if it was known. If the listing was taken from one of the published inventory studies the status was that of the date the study was published, which may not be the same as in 1978. The answer to the question heading the next column "Further site study justified?" was answered by either yes, no, or maybe. The answer given is the Department's best opinion. The "no" answer was given for those rock types where asbestiform minerals would be very unlikely to be found. The "yes" answers were for those rock types where there was a good chance that asbestiform minerals could be found. The "maybe" was given for a rock type that sometimes would contain asbestiform minerals.

Study Results

Out of 650 sites that were found and plotted on the two maps 597 were answered with a "no" for the column headed "Further site study justified?"; 29 were answered with a "maybe" and 24 were answered with a "yes." The "no" answers were for active or inactive quarries in volcanic rock, granitic rock, sedimentary rock, and low-grade metamorphic rock. The "maybe" answers were for active or inactive quarries in greenstone or blueschist rock. The "yes" answers were for active or inactive quarries in serpentinite rock or for active or inactive asbestiform mineral occurrences. Again it must be stressed that this report is based on information at hand. No field surveying was performed. The following table (Table 3) summarizes the study results.

TABLE 3. STUDY RESULTS

Map	Active Site Number	Inactive Site Number	Unknown Site Number
NORTHEASTERN OREGON			
Yes Answers			
Serpentinite Quarries	-	65	-
Asbestiform Mineral Occurrences	-	44,46,64,69, 74,82,90	-
Maybe Answers			
Greenstone and Blueschist	51	59	-
SOUTHWESTERN OREGON			
Yes Answers			
Serpentinite Quarries	248,248a	-	139a,279,327, 329,411,450a, 469
Asbestiform Mineral Occurrences	418,532	139,250,377, 408,409	-
Maybe Answers			
Greenstone and Blueschist	78,96,98, 107,120,195	30,101,115,305 306,309,358,365, 366,369,407,433, 441,442,475,477a, 516	31,44,55,232

PUBLISHED DATA SOURCES

Baldwin, E.M., Beaulieu, J.D., Ramp, L., Gray, J., Newton, V.C., Jr., and Mason, R.S., 1973, Geology and Mineral Resources of Coos County, Oregon: Oregon Dept. Geol. and Mineral Indus. Bull. 80, 82 p.

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APPENDIX A-1

TABLE 1. SURVEY DATA FOR NORTHEASTERN OREGON MAP

Page 1 of Table 1

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Schlicker, Schmuck, and Gray-1976 Site Numbers	Rock Type	Status	Further Site Study Justified?	Remarks
		Sec.	Twnshp.	Rnge.						
1	Umatilla	16	5S	31E		243	Volcanics		No	
2	Umatilla	21	5S	31E		244	Volcanics		No	
3	Umatilla	21	5S	31E		245	Volcanics		No	
4	Umatilla	21	5S	31E	30-0020	246	Volcanics	Inactive	No	
5	Umatilla	28	5S	31E		247	Volcanics	Active	No	
6	Umatilla	15	6S	31E		271	Volcanics		No	
7	Umatilla	4	6S	32E		267	Volcanics		No	
8	Umatilla	30	6S	32E		270	Volcanics		No	
9	Umatilla	27	6S	32E		269	Volcanics		No	
10	Umatilla	24	6S	32E		268	Volcanics		No	
11	Umatilla	17	6S	33E		260	Volcanics	Inactive	No	
12	Umatilla	30	6S	33E		263	Volcanics		No	
13	Umatilla	28	6S	33E		262	Volcanics		No	
14	Umatilla	35	6S	33E		264	Granitic		No	
15	Umatilla	35	6S	33E		265	Granitic		No	
16	Umatilla	36	6S	33E		266	Granitic		No	
17	Umatilla	25	6S	33E		261	Volcanics		No	
18	Umatilla	28	6S	34E		259	Volcanics		No	
19	Grant	33	7S	31E			Volcanics		No	
20	Baker	27	7S	42E	01-0022		Volcanics	Inactive	No	
21	Grant	31	8S	31E			Granitic		No	

TABLE 1. SURVEY DATA FOR NORTHEASTERN OREGON MAP

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Schlicker, Schmuck, and Gray-1976 Site Numbers	Rock Type	Status	Further Site Study Justified?	Remarks
		Sec.	Twnshp.	Rnge.						
22	Baker	1	8S	42E	01-0007		Granitic	Active	No	
23	Baker	24	8S	42E			Volcanics		No	
24	Baker	33	8S	42E			Volcanics		No	
25	Baker	34	8S	42E			Volcanics		No	
26	Baker	17	8S	42E	01-0015		Granitic	Active	No	
27	Grant	10	9S	31E			Volcanics		No	
28	Grant	27	9S	32E	12-0022		Volcanics	Inactive	No	
29	Baker	22	9S	38E			Limestone	Inactive	No	
30	Baker	14	9S	38E			Limestone	Inactive	No	
31	Baker	30	9S	40E	01-0046		Volcanics	Active	No	
32	Baker	13	9S	41E	01-0012		Volcanics	Active	No	
33	Baker	3	9S	44E			Volcanics		No	
34	Baker	6	9S	46E	01-0062		Volcanics	Active	No	
35	Grant	3	10S	32E			Metamorphic		No	
36	Grant	20	10S	33E			Volcanics		No	
37	Baker	30	10S	40E			Volcanics		No	
38	Baker	18	10S	41E			Volcanics	Inactive	No	
39	Baker	17	10S	41E			Volcanics	Inactive	No	
40	Baker	22	10S	41E			Volcanics		No	
41	Baker	30	10S	42E	01-0028		Volcanics	Active	No	
42	Baker	8	10S	46E	01-0020		Volcanics	Inactive	No	
43	Grant	30	11S	30E			Volcanics		No	

TABLE 1 . SURVEY DATA FOR NORTHEASTERN OREGON MAP

Page 3 of Table 1

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Schlicker, Schmuck, and Gray-1976 Site Numbers	Rock Type	Status	Further Site Study Justified?	Remarks
		Sec.	Twnshp.	Rnge.						
44	Grant	17,18, 19,20	11S	34E			Asbestiform Mineral	Inactive	Yes	Deposit name - Big Butte Creek
45	Grant	20	11S	35E			Volcanics		No	
46	Baker	34,35	11S	39E			Asbestiform Mineral	Inactive	Yes	Deposit name - Pine Creek Asbestos
47	Baker	6	11S	40E			Volcanics		No	
48	Baker	7	11S	40E			Volcanics		No	
49	Baker	29	11S	40E			Volcanics		No	
50	Baker	28	11S	40E			Volcanics		No	
51	Baker	26	11S	42E	01-0001		Greenstone	Active	Maybe	Deposit Name is Durkee Pit. Operator is Baker Co. Rd. Dept., Baker Co. Courthouse, Baker, OR 97814
52	Grant	35	12S	26E			Volcanics		No	
53	Grant	18	12S	31E			Volcanics		No	
54	Grant	31	12S	31E			Volcanics		No	
55	Grant	26	12S	32E			Volcanics		No	
56	Baker	28	12S	37E			Volcanics		No	
57	Baker	11	12S	43E	01-0044		Shale	Active	No	
58	Baker	10	12S	43E	01-0053		Limestone	Active	No	
59	Baker	18	12S	44E			Greenstone	Inactive	Maybe	Ownership unknown.
60	Grant	13	13S	27E			Volcanics		No	
61	Grant	7	13S	28E			Volcanics		No	

TABLE 1. SURVEY DATA FOR NORTHEASTERN OREGON MAP

Page 4 of Table 1

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Schlicker, Schmuck, and Gray-1976 Site Numbers	Rock Type	Status	Further Site Study Justified?	Remarks
		Sec.	Twnshp.	Rnge.						
62	Grant	7	13S	28E			Volcanics		No	
63	Grant	15	13S	28E			Volcanics		No	
64	Grant	12,13, 14	13S	30E			Asbestiform Mineral	Inactive	Yes	Deposit name - Mount Vernon
65	Grant	12	13S	30E	12-0004		Greenstone, Serpentinite?	Inactive	Yes	J. A. and M. J. Henning 317 S. Canyon Blvd. John Day, OR 97545
66	Grant	29	13S	32E	12-0006		Volcanics	Inactive	No	
67	Grant	36	13S	32E	12-0005		Volcanics	Active	No	
68	Baker	19	13S	38E			Volcanics		No	
69	Baker	22	13S	38E			Asbestiform Mineral	Inactive	Yes	Deposit name - Rock Creek Butte
70	Baker	26	13S	44E			Limestone	Active	No	
71	Baker	26	13S	44E	01-0045		Limestone	Inactive	No	
72	Grant	13	14S	26E	12-0029		Volcanics	Active	No	
73	Grant	35	14S	31E			Volcanics		No	
74	Grant	7,18	14S	32E			Asbestiform Mineral	Inactive	Yes	Deposit name - Spare Time Claims
75	Baker	12	14S	37E	01-0015		Volcanics	Active	No	
76	Baker	7	14S	38E			Volcanics		No	
77	Malheur	9	14S	40E			Volcanics		No	
78	Malheur	33	14S	40E			Volcanics		No	
79	Malheur	34	14S	42E			Volcanics		No	

TABLE 1. SURVEY DATA FOR NORTHEASTERN OREGON MAP

Page 5 of Table 1

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Schlicker, Schmuck, and Gray-1976 Site Numbers	Rock Type	Status	Further Site Study Justified?	Remarks
		Sec.	Twnshp.	Rnge.						
80	Baker	5	14S	43E			Cinder		No	
81	Baker	5	14S	43E	01-0056		Cinder	Active	No	
82	Malheur	7	14S	43E			Asbestiform Mineral	Inactive	Yes	Deposit name - Towell Claims
83	Grant	11	15S	31E			Volcanics		No	
84	Grant	31	15S	31E			Volcanics		No	
85	Grant	19	15S	36E			Volcanics		No	
86	Malheur	11	15S	41E			Volcanics		No	
87	Grant	14	16S	26E			Volcanics		No	
88	Grant	33	16S	30E			Cinders		No	
89	Grant	5	16S	31E			Volcanics		No	
90	Grant	1,2, 3,11	16S	31E			Asbestiform Mineral	Inactive	Yes	Deposit name - Bear Valley
91	Grant	34	16S	31E			Volcanics		No	
92	Grant	14	16S	33E			Volcanics		No	
93	Grant	19	16S	33½E			Volcanics		No	
94	Grant	20	17S	26E			Volcanics		No	
95	Grant	30	17S	28E			Volcanics		No	
96	Grant	30	17S	28E			Volcanics		No	
97	Grant	30	17S	28E			Volcanics		No	
98	Grant	18	17S	29E			Volcanics		No	
99	Grant	2	17S	31E			Volcanics		No	
100	Grant	14	17S	31E			Sedimentary		No	
101	Grant	23	17S	31E			Sedimentary		No	

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

Page 1 of Table 2

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
1	Douglas	14	25S	4W	10-0124			Volcanics	Active	No
2	Douglas	20	25S	3W				Volcanics		No
3	Douglas	3	25S	2W				Volcanics		No
4	Douglas	16	25S	2W				Volcanics		No
5	Douglas	1	25S	2W				Volcanics		No
6	Douglas	10	26S	5W	10-0095			Volcanics	Active	No
7	Douglas	32	26S	5W	10-0121			Volcanics	Active	No
8	Douglas	18	26S	4W				Volcanics		No
9	Douglas	29	26S	4W	10-0051			Volcanics	Active	No
10	Douglas	10	26S	2W				Volcanics		No
11	Douglas	15	26S	2W				Volcanics		No
12	Douglas	16	26S	2W				Volcanics		No
13	Douglas	9	26S	1W				Volcanics		No
14	Douglas	29	27S	6W	10-0053			Volcanics	Active	No
15	Douglas	29	27S	6W				Volcanics		No
16	Douglas	28	27S	6W				Volcanics		No
17	VOID #									
18	Douglas	3	27S	5W				Volcanics		No
19	Douglas	18	27S	5W				Volcanics		No
20	Douglas	8	27S	5W				Volcanics		No
21	Douglas	10	27S	5W	10-0099			Volcanics	Inactive	No
22	Douglas	15	27S	5W	10-0042			Volcanics	Active	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
23	Douglas	24	27S	5W				Volcanics		No
24	Douglas	35	27S	5W				Volcanics		No
25	Douglas	2	27S	3W				Volcanics		No
26	Douglas	14	27S	3W				Volcanics		No
27	Douglas	12	27S	3W				Volcanics		No
28	Douglas	28	27S	2W				Volcanics		No
29	Douglas	17	27S	2W				Volcanics		No
30	Coos	25	28S	15W				Blueschist	Inactive	Maybe[1]
31	Coos	26	28S	13W				Greenstone		Maybe
32	Coos	10	28S	12W	06-0014			Volcanics		No
33	Coos	19	28S	12W				Volcanics		No
34	Coos	29	28S	12W				Volcanics		No
35	Coos	21	28S	12W	06-0049			Volcanics		No
36	Coos	21	28S	12W				Volcanics		No
37	Coos	30	28S	12W				Volcanics		No
38	Coos	30	28S	12W	06-0042			Volcanics		No
39	Coos	29	28S	11W				Volcanics		No
40	Coos	11	28S	10W				Sedimentary		No
41	Douglas	24	28S	8W				Volcanics		No
42	Douglas	24	28S	8W				Volcanics		No
43	Douglas	24	28S	8W				Volcanics		No

TABLE 2. SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
44	Douglas	3	28S	7W				Greenstone?		Maybe
45	Douglas	2	28S	6W				Volcanics		No
46	Douglas	1	28S	6W				Volcanics		No
47	Douglas	1	28S	6W				Volcanics		No
48	Douglas	10	28S	6W	10-0034			Volcanics	Inactive	No[2]
49	Douglas	15	28S	6W	10-0020			Volcanics	Inactive	No
50	Douglas	32	28S	6W				Volcanics		No
51	Douglas	33	28S	6W				Volcanics		No
52	Douglas	32	28S	4W				Granitic		No
53	Douglas	35	28S	3W				Volcanics		No
54	Coos	29	29S	14W	06-0016			Volcanics	Active	No
55	Coos	29	29S	14W				Blueschist?		Maybe
56	Coos	21	29S	12W				Sedimentary		No
57	Coos	22	29S	12W				Volcanics		No
58	Coos	26	29S	12W				Volcanics		No
59	Coos	24	29S	12W				Volcanics		No
60	Coos	20	29S	11W	06-0022			Volcanics	Active	No
61	Coos	36	29S	11W	06-0026			Volcanics	Active	No
62	Coos	36	29S	11W				Volcanics		No
63	Douglas	1	29S	6W				Volcanics		No
64	VOID #									
65	Douglas	16	29S	3W				Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
66	Douglas	27	29S	1W				Volcanics		No
67	Douglas	19	29S	1E				Volcanics		No
68	Douglas	19	29S	1E				Volcanics		No
69	Douglas	32	29S	1E				Volcanics		No
70	Curry	36	30S	15W		301		Metamorphic	Inactive	No
71	Coos	6	30S	14W	06-0046			Volcanics	Inactive	No
72	Coos	7	30S	14W				Volcanics		No
73	Curry	31	30S	14W	08-0057	303		Metamorphic	Active	No
74	Curry	30	30S	14W		302		Metamorphic	Inactive	No
75	Curry	32	30S	14W		304		Metamorphic	Inactive	No
76	Coos	4	30S	13W				Volcanics		No
77	Coos	15	30S	13W				Volcanics		No
78	Coos	4	30S	12W	06-0048			Blueschist	Active	Maybe
79	Coos	8	30S	12W				Volcanics		No
80	VOID #									
81	Coos	16	30S	11W				Volcanics		No
82	Coos	21	30S	11W				Volcanics		No
83	Douglas	26	30S	9W	10-0113			Volcanics	Active	No
84	Douglas	32	30S	7W				Volcanics		No
85	VOID #									
86	Douglas	23	30S	3W				Sedimentary		No
87	Douglas	13	30S	2W				Sedimentary		No
88	Douglas	24	30S	2W				Sedimentary		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified'
		Sec.	Twnshp.	Rnge.						
89	Douglas	5	30S	1W				Volcanics		No
90	Douglas	7	30S	1E				Volcanics		No
91	Douglas	17	30S	1E				Volcanics		No
92	Douglas	30	30S	1E				Volcanics		No
93	Douglas	29	30S	1E				Volcanics		No
94	Douglas	33	30S	1E				Volcanics		No
95	Curry	12	31S	15W	08-0058	308		Metamorphic	Active	No
96	Curry	12	31S	15W	08-0055	309		Greenstone	Active	Maybe
97	Curry	22	31S	15W		310		Volcanics	Inactive	No
98	Curry	35	31S	15W		312		Blueschist	Active	Maybe
99	Curry	6	31S	14W		313		Volcanics	Active	No
100	Curry	35	31S	14W		314		Metamorphic	Inactive	No
101	Curry	29	31S	13W		316		Blueschist	Inactive	Maybe
102	Curry	32	31S	13W		320		Metamorphic	Inactive	No
103	Curry	27	31S	13W		317		Sandstone	Inactive	No
104	Curry	34	31S	13W		321		Metamorphic	Active	No
105	Curry	35	31S	13W		318		Sandstone	Inactive	No
106	Curry	25	31S	13W		319		Metamorphic	Inactive	No
107	Coos	17	31S	12W	06-0037			Blueschist	Active	Maybe
108	VOID #									
109	Douglas	29	31S	3W				Sedimentary		No
110	Douglas	4	31S	1E				Volcanics		No
111	Douglas	7	31S	1E				Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
112	Douglas	9	31S	1E				Volcanics		No
113	Douglas	4	31S	1E				Volcanics		No
113a	Jackson	28	31S	1E				Volcanics		No
114	Curry	9	32S	15W		325		Sandstone	Inactive	No
115	Curry	10	32S	15W		327		Greenstone	Inactive	Maybe
116	Curry	11	32S	15W	08-0001	329		Metamorphic	Active	No
117	VOID #									
118	Curry	12	32S	15W	08-0025	332		Metamorphic	Inactive	No
119	Curry	16	32S	15W		333		Sandstone	Inactive	No
120	Curry	29	32S	15W	08-0053	336		Greenstone	Active	Maybe
121	Curry	36	32S	15W		338		Volcanics	Active	No
122	Curry	12	32S	14W		343		Sandstone	Inactive	No
123	Curry	12	32S	14W		344		Volcanics	Inactive	No
124	Curry	6	32S	13W		345		Granitic	Inactive	No
125	Curry	5	32S	13W		346		Sandstone	Inactive	No
126	Curry	2	32S	13W		347		Metamorphic	Inactive	No
127	Coos	10	32S	12W	06-0035			Volcanics	Inactive	No
128	Coos	11	32S	12W				Volcanics		No
128a	Coos	12	32S	12W	06-0034			Volcanics	Inactive	No
129	Coos	29	32S	12W				Volcanics		No
129a	Coos	27	32S	12W	06-0018			Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified'
		Sec.	Twnshp.	Rnge.						
130	Coos	16	32S	10W	06-0019			Sedimentary		No
131	Coos	21	32S	10W	06-0020			Volcanics		No
132	Curry	26	32S	10W		357		Sedimentary	Inactive	No
133	Curry	28	32S	9W		358		Sedimentary	Inactive	No
134	Douglas	14	32S	5W				Volcanics		No
135	Douglas	6	32S	4W				Volcanics		No
136	Douglas	2	32S	4W	10-0098			Volcanics	Inactive	No
137	Douglas	33	32S	4W				Volcanics		No
138	Douglas	33	32S	4W				Volcanics		No
139	Jackson	36	32S	4W				Asbestiform Mineral	Inactive	Yes[5]
139a	Jackson	31	32S	4W	15-0080			Serpentinite		Yes
140	Jackson	9	32S	1E				Volcanics		No
141	Curry	15	33S	14W		348		Granitic	Active	No
142	Curry	24	33S	14W		349		Sandstone	Inactive	No
143	Curry	25	33S	14W		350		Metamorphic	Active	No
144	Curry	36	33S	14W		351		Metamorphic	Inactive	No
145	Curry	36	33S	14W		353		Metamorphic	Inactive	No
146	Curry	36	33S	14W		352		Metamorphic	Inactive	No
147	Curry	28	33S	13W		354		Metamorphic	Inactive	No
148	Curry	34	33S	13W	08-0010	355		Sandstone	Active	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
149	Curry	36	33S	12W	08-0028	356		Sandstone	Active	No
150	Curry	28	32S	9W		359		Sedimentary	Inactive	No
150a	Josephine	29	33S	9W			32	Sandstone		No
151	Josephine	34	33S	9W			34	Sandstone		No
152	Josephine	33	33S	9W			35	Sandstone		No
153	Josephine	34	33S	9W			36	Metamorphic		No
154	Josephine	32	33S	9W			33	Sandstone		No
155	Josephine	3	33S	8W			21	Sandstone		No
156	Josephine	11	33S	8W			22	Sandstone		No
157	Josephine	11	33S	8W			23	Volcanics		No
158	Josephine	13	33S	8W			24	Volcanics		No
159	Josephine	23	33S	8W			26	Volcanics		No
159a	Josephine	13	33S	8W			25	Volcanics		No
160	Josephine	23	33S	8W			27	Volcanics		No
161	Josephine	26	33S	8W			28	Volcanics		No
162	Josephine	26	33S	8W			29	Volcanics		No
163	Josephine	35	33S	8W			30	Volcanics		No
164	Josephine	36	33S	8W			31	Volcanics		No
165	Josephine	31	33S	7W			18	Metamorphic		No
166	Josephine	35	33S	7W			19	Volcanics		No
167	Josephine	36	33S	7W			20	Volcanics		No

TABLE 2. SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
168	Josephine	21	33S	6W			12	Volcanics		No
169	Josephine	22	33S	6W			13	Volcanics		No
170	Josephine	22	33S	6W			14	Metamorphic		No
171	Josephine	29	33S	6W			17	Volcanics		No
172	Josephine	30	33S	5W			8	Volcanics		No
173	Josephine	28	33S	5W			6	Volcanics		No
173a	Josephine	26	33S	5W			5	Volcanics		No
174	Josephine	26	33S	5W			4	Metamorphic		No
175	Josephine	23	33S	5W			3	Volcanics		No
176	Josephine	31	33S	5W			9	Volcanics		No
177	Josephine	28	33S	5W			7	Volcanics		No
178	Jackson	26	33S	3W				Granitic		No
179	Jackson	6	33S	2W				Volcanics		No
180	Jackson	8	33S	1W	15-0045			Volcanics		No
181	Jackson	30	33S	1E				Volcanics		No
182	Jackson	30	33S	1E				Volcanics		No
183	Curry	5	34S	14W		360		Volcanics	Active	No
184	Curry	7	34S	14W	08-0040	361		Metamorphic	Inactive	No
185	Curry	31	34S	14W		362		Volcanics	Active	No
186	Curry	29	34S	14W		363		Metamorphic	Inactive	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
187	Curry	5	34S	13W		367		Sandstone	Active	No
188	Curry	5	34S	13W		364		Sandstone	Inactive	No
189	Curry	4	34S	13W		365		Sandstone	Inactive	No
190	Curry	4	34S	13W		366		Sandstone	Inactive	No
191	Curry	29	34S	13W		368		Sandstone	Inactive	No
192	Curry	32	34S	13W		369		Metamorphic	Inactive	No
193	Curry	33	34S	13W		370		Volcanics	Inactive	No
194	Curry	17	34S	12W		371		Granitic	Inactive	No
195	Curry	19	34S	12W		372		Greenstone	Active	Maybe
196	Curry	27	34S	12W		373		Volcanics	Active	No
197	Curry	26	34S	12W		374		Volcanics	Inactive	No
198	Curry	4	34S	10W		375		Sandstone	Inactive	No
199	Josephine	12	34S	10W			94	Sandstone		No
200	Curry	31	34S	10W		377		Sandstone	Inactive	No
201	Curry	31	34S	10W		378		Sandstone	Inactive	No
202	Curry	28	34S	10W		376		Sandstone	Inactive	No
203	Josephine	25	34S	10W			95	Sandstone		No
204	Josephine	6	34S	9W			75	Sandstone		No
205	Josephine	6	34S	9W			74	Sandstone		No
206	Josephine	6	34S	9W			73	Sandstone		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
207	Josephine	7	34S	9W			76	Sandstone		No
208	Josephine	7	34S	9W			77	Sandstone		No
209	Josephine	8	34S	9W			78	Sandstone		No
210	Josephine	8	34S	9W			79	Sandstone		No
211	Josephine	9	34S	9W			80	Sandstone		No
212	Josephine	10	34S	9W			81	Sandstone		No
213	Josephine	18	34S	9W			87	Metamorphic		No
214	Josephine	17	34S	9W			85	Metamorphic		No
215	Josephine	17	34S	9W			84	Sandstone		No
216	Josephine	17	34S	9W			86	Sandstone		No
217	Josephine	15	34S	9W			82	Sandstone		No
218	Josephine	15	34S	9W			83	Sandstone		No
219	Josephine	21	34S	9W			88	Sandstone		No
220	Josephine	22	34S	9W			89	Sandstone		No
221	Josephine	27	34S	9W			90	Sandstone		No
222	Josephine	33	34S	9W			91	Sandstone		No
223	Josephine	34	34S	9W			92	Sandstone		No
224	Josephine	35	34S	9W			93	Sandstone		No
225	Josephine	28	34S	8W			72	Metamorphic		No
226	Josephine	2	34S	7W			57	Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
227	Josephine	11	34S	7W			61	Volcanics		No
228	Josephine	8	34S	7W			59	Metamorphic		No
229	Josephine	9	34S	7W			60	Metamorphic		No
230	Josephine	15	34S	7W			63	Volcanics		No
231	Josephine	11	34S	7W			62	Volcanics		No
232	Josephine	15	34S	7W			64	Greenstone		Maybe
233	Josephine	22	34S	7W			65	Volcanics		No
234	Josephine	23	34S	7W			66	Volcanics		No
235	Josephine	27	34S	7W			69	Volcanics		No
236	Josephine	33	34S	7W			70	Volcanics		No
237	Josephine	33	34S	7W			71	Volcanics		No
238	Josephine	25	34S	7W			68	Metamorphic		No
239	Josephine	25	34S	7W			67	Metamorphic		No
240	Josephine	6	34S	6W			45	Sedimentary		No
241	Josephine	5	34S	6W			43	Sedimentary		No
242	Josephine	4	34S	6W			42	Sedimentary		No
243	Josephine	21	34S	6W			53	Volcanics		No
244	Josephine	23	34S	6W			54	Metamorphic		No
245	Josephine	23	34S	6W			55	Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
246	Josephine	2	34S	5W			38	Volcanics		No
247	Josephine	1	34S	5W			37	Metamorphic		No
248	Jackson	11	34S	4W				Serpentinite	Active	Yes
248a	Jackson	24	34S	4W				Serpentinite	Active	Yes[4]
249	Jackson	3	34S	3W				Volcanics		No
250	Jackson	15	34S	3W				Asbestiform Mineral	Inactive	Yes[5]
251	Jackson	18	34S	1W	15-0114			Volcanics		No
252	Jackson	17	34S	1W				Volcanics		No
253	Jackson	20	34S	1W				Volcanics		No
254	Jackson	30	34S	1W	15-0113			Volcanics		No
255	Curry	3	35S	14W		379		Metamorphic	Active	No
256	Curry	9	35S	14W		380		Metamorphic		No
257	Curry	36	35S	14W		381		Metamorphic	Active	No
258	Curry	6	35S	13W		382		Metamorphic	Active	No
259	Curry	8	35S	13W		384		Metamorphic	Active	No
260	Curry	4	35S	13W		383		Metamorphic	Inactive	No
261	Curry	27	35S	12W		385		Metamorphic	Inactive	No
262	Curry	32	35S	12W		386		Metamorphic	Active	No
263	Curry	13	35S	11W		387		Sandstone	Active	No
264	Josephine	2	35S	9W			137	Granitic		No

TABLE 2. SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
265	Josephine	1	35S	9W			136	Granitic		No
266	Josephine	14	35S	9W			139	Granitic		No
267	Josephine	15	35S	9W			140	Granitic		No
268	Josephine	14	35S	9W			138	Granitic		No
268a	Josephine	5	35S	8W			134	Granitic		No
269	Josephine	34	35S	8W			135	Granitic		No
270	Josephine	15	35S	7W			126	Sedimentary		No
271	Josephine	14	35S	7W			125	Sedimentary		No
272	Josephine	13	35S	7W			124	Sedimentary		No
273	Josephine	23	35S	7W			127	Sedimentary		No
274	Josephine	33	35S	7W	17-0025		132	Sedimentary	Active	No
275	Josephine	5	35S	6W			107	Granitic		No
276	Josephine	3	35S	6W			106	Granitic		No
277	Josephine	14	35S	6W			112	Granitic		No
278	Josephine	4	35S	6W			113	Granitic		No
279	Josephine	13	35S	6W			111	Serpentinite		Yes
280	Josephine	33	35S	6W			120	Granitic		No
281	Josephine	36	35S	6W			121	Granitic		No
282	Josephine	7	35S	5W			97	Volcanics		No
283	Josephine	1	35S	5W			96	Granitic		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified'
		Sec.	Twnshp.	Rnge.						
284	Josephine	36	35S	5W			104	Volcanics		No
285	Josephine	25	35S	5W			100	Volcanics		No
285a	Josephine	36	35S	5W			103	Volcanics		No
286	Jackson	34	35S	4W	15-0044			Granitic		No
286a	Jackson	6	35S	2W	15-0128			Volcanics		No
287	Jackson	34	35S	2W	15-0019			Volcanics	Active	No
288	Jackson	7	35S	1W				Volcanics		No
289	Jackson	8	35S	1W				Volcanics		No
290	Jackson	21	35S	1W	15-0117			Granitic	Active	No
291	Jackson	33	35S	1W	15-0112			Volcanics	Active	No
292	Jackson	33	35S	1W	15-0122			Volcanics	Active	No
293	Curry	1	36S	14W		389		Sandstone	Inactive	No
294	Curry	11	36S	14W		390		Volcanics	Inactive	No
295	Curry	22	36S	14W		394		Metamorphic	Inactive	No
296	Curry	22	36S	14W		395		Metamorphic	Active	No
297	Curry	29	36S	14W	08-0004	396		Metamorphic	Inactive	No
298	Curry	32	36S	14W		398		Sandstone	Inactive	No
299	Curry	32	36S	14W		397		Volcanics	Inactive	No
300	Curry	33	36S	14W		401		Metamorphic	Inactive	No
301	Curry	32	36S	14W		399		Volcanics	Inactive	No
302	Curry	32	36S	14W		400		Volcanics	Inactive	No
303	Curry	32	36S	14W		402		Volcanics	Inactive	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
304	Curry	4	36S	13W		403		Metamorphic	Active	No
305	Curry	1	36S	13W		404		Greenstone	Inactive	Maybe
306	Curry	12	36S	13W		405		Greenstone	Inactive	Maybe
307	Curry	21	36S	13W		407		Volcanics	Inactive	No
308	Curry	15	36S	13W		406		Volcanics	Inactive	No
309	Curry	33	36S	13W		409		Greenstone	Inactive	Maybe
310	Curry	27	36S	13W		408		Volcanics	Inactive	No
311	Curry	33	36S	13W	08-0046	410		Metamorphic	Active	No
312	Curry	6	36S	12W		411		Metamorphic	Active	No
313	Curry	5	36S	12W		412		Metamorphic	Inactive	No
314	Curry	36	36S	12½W		413		Metamorphic	Inactive	No
315	Josephine	20	36S	9W			184	Granitic		No
316	Josephine	21	36S	9W			185	Granitic		No
317	Josephine	6	36S	8W			176	Metamorphic		No
318	Josephine	7	36S	8W			177	Metamorphic		No
319	Josephine	20	36S	8W			180	Volcanics		No
320	Josephine	16	36S	8W			179	Volcanics		No
321	Josephine	14	36S	8W			178	Volcanics		No
322	Josephine	28	36S	8W			183	Volcanics		No
323	Josephine	22	36S	8W			182	Volcanics		No
324	Josephine	22	36S	8W			181	Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
325	Josephine	17	36S	7W			172	Volcanics		No
326	Josephine	14	36S	7W	17-0020		171	Sedimentary	Active	No
327	Josephine	20	36S	7W			174	Serpentinite		Yes
328	Josephine	19	36S	7W			173	Volcanics		No
329	Josephine	29	36S	7W			175	Serpentinite		Yes
330	Josephine	4	36S	6W			151	Granitic		No
331	Josephine	7	36S	6W			152	Granitic		No
332	Josephine	8	36S	6W	17-0027		153	Granitic	Active	No
333	Josephine	18	36S	6W			158	Granitic		No
334	Josephine	27	36S	6W			163	Granitic		No
335	Josephine	34	36S	6W			169	Granitic		No
336	Josephine	13	36S	6W			154	Granitic		No
337	Josephine	7	36S	5W			142	Granitic		No
338	Josephine	7	36S	5W	17-0047		141	Granitic		No
339	Josephine	30	36S	5W			150	Granitic		No
340	Josephine	26	36S	5W			148	Volcanics		No
341	Josephine	26	36S	5W	17-0002		149	Volcanics	Active	No
342	Jackson	18	36S	4W	15-0001			Volcanics	Active	No
343	Jackson	20	36S	4W	15-0054			Volcanics	Active	No
343a	Jackson	36	36S	4W	15-0018			Limestone	Inactive	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
344	Jackson	22	36S	4W	15-0048			Volcanics	Inactive	No
344a	Jackson	3	36S	4W	15-0010			Silica	Inactive	No
345	Jackson	4	36S	1W	15-0089			Volcanics	Active	No
345a	Jackson	4	36S	1W	15-0098			Volcanics	Active	No
346	Jackson	4	36S	1W	15-0052			Volcanics	Active	No
347	Jackson	8	36S	1W	15-0006			Volcanics	Active	No
348	Jackson	11	36S	1W				Volcanics	Active	No
349	Jackson	26	36S	1W				Volcanics	Active	No
350	Curry	6	37S	14W		414		Volcanics	Active	No
351	Curry	6	37S	14W		415		Volcanics	Inactive	No
352	Curry	5	37S	14W		416		Volcanics	Inactive	No
353	Curry	20	37S	14W		419		Volcanics	Inactive	No
354	Curry	15	37S	14W		417		Volcanics	Inactive	No
355	Curry	30	37S	14W		420		Sandstone	Active	No
356	Curry	22	37S	14W	08-0003	421		Volcanics	Active	No
357	Curry	24	37S	14W		422		Metamorphic	Inactive	No
358	Curry	36	37S	14W		424		Greenstone	Inactive	Maybe
359	Curry	1	37S	13W		426		Granitic	Inactive	No
360	Curry	1	37S	13W		425		Sandstone	Active	No
361	Curry	1	37S	13W		428		Sandstone	Inactive	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Stud Justified
		Sec.	Twnshp.	Rnge.						
362	Curry	1	37S	13W		427		Sandstone	Inactive	No
363	Curry	1	37S	13W		429		Sandstone	Active	No
364	Curry	12	37S	13W		431		Sandstone	Active	No
365	Curry	18	37S	13W		432		Greenstone	Inactive	Maybe
366	Curry	9	37S	13W		430		Greenstone	Inactive	Maybe
367	Curry	9	37S	12W		434		Volcanics	Inactive	No
368	Curry	25	37S	12½W		433		Volcanics	Active	No
369	Curry	33	37½S	12W		444		Greenstone	Inactive	Maybe
370	Josephine	1	37S	9W			210	Volcanics		No
371	Josephine	23	37S	9W			211	Volcanics		No
372	Josephine	24	37S	9W			212	Volcanics		No
373	Josephine	19	37S	8W			209	Volcanics		No
374	Josephine	10	37S	7W			207	Metamorphic		No
375	Josephine	9	37S	6W			202	Granitic		No
376	Josephine	18	37S	6W	17-0018		203	Metamorphic	Active	No
377	Josephine	9	37S	6W				Asbestiform Mineral	Inactive	Yes[6]
378	Josephine	19	37S	6W			204	Limestone		No
379	Josephine	24	37S	6W			205	Volcanics		No
380	Josephine	19	37S	5W			186	Volcanics		No
381	Josephine	19	37S	5W	17-0007		187	Volcanics	Active	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
382	Josephine	28	37S	5W			194	Granitic		No
383	Josephine	25	37S	5W			193	Granitic		No
384	Josephine	33	37S	5W			195	Volcanics		No
385	Josephine	35	37S	5W			198	Volcanics		No
386	Josephine	35	37S	5W			199	Volcanics		No
386a	Jackson	36	37S	5W	15-0047			Volcanics		No
387	Jackson	6	37S	2W	15-0110			Granitic		No
388	Jackson	7	37S	2W	15-0107			Granitic		No
389	Jackson	8	37S	2W	15-0095			Granitic		No
390	Jackson	8	37S	2W	15-0003			Granitic		No
391	Jackson	8	37S	2W	15-0004			Granitic		No
392	Jackson	18	37S	2W	15-0015			Granitic		No
393	Jackson	19	37S	2W	15-0100			Granitic		No
394	Jackson	19	37S	2W	15-0037			Granitic		No
395	Jackson	19	37S	2W	15-0111			Granitic		No
396	Jackson	19	37S	2W	15-0119			Granitic		No
397	Jackson	19	37S	2W	15-0084			Granitic		No
398	Jackson	19	37S	2W	15-0106			Granitic		No
399	Jackson	30	37S	2W				Granitic		No
400	Jackson	32	37S	2W	15-0023			Volcanics		No
400a	Jackson	14	37S	1W				Volcanics	Active	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

Site umber	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
401	Curry	3	38S	14W		435		Sandstone	Inactive	No
402	Curry	7	38S	14W		436		Sandstone	Inactive	No
403	Curry	7	38S	14W		437		Volcanics	Inactive	No
404	Curry	21	38S	14W		441		Sandstone	Active	No
405	Curry	14	38S	14W		438		Sandstone	Inactive	No
406	Curry	14	38S	14W		439		Sandstone	Active	No
407	Curry	33	38S	12W		445		Greenstone	Inactive	Maybe
408	Josephine	33	38S	9W				Asbestiform Mineral	Inactive	Yes[7]
409	Josephine	36	38S	9W				Asbestiform Mineral	Inactive	Yes[7]
410	Josephine	24	38S	8W			239	Metamorphic		No
411	Josephine	24	38S	8W			240	Metamorphic		No
411a	Josephine	28	38S	8W			242	Serpentinite		Yes
412	Josephine	26	38S	8W			241	Sedimentary		No
413	Josephine	1	38S	7W			230	Volcanics		No
414	Josephine	26	38S	6W			229	Volcanics		No
415	Josephine	25	38S	6W			228	Granitic		No
416	Josephine	17	38S	5W			220	Volcanics		No
417	Josephine	16	38S	5W			219	Volcanics		No
418	Josephine	19	38S	5W				Asbestiform Mineral	Active	Yes[8]

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site umber	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
419	Josephine	15	38S	5W	17-0040		218	Limestone	Inactive	No
420	Josephine	13	38S	5W			217	Granitic		No
421	Jackson	7	38S	4W				Granitic		No
422	Jackson	16	38S	4W				Volcanics		No
423	Jackson	15	38S	4W				Volcanics		No
424	Jackson	3	38S	2W	15-0101			Volcanics	Inactive	No
425	Jackson	16	38S	2W				Volcanics		No
426	Jackson	15	38S	2W				Volcanics		No
427	Jackson	18	38S	1W	15-0070			Volcanics	Active	No
427a	Jackson	19	38S	1W	15-0105			Volcanics		No
428	Jackson	20	38S	1W				Volcanics		No
429	Curry	4	39S	14W		446		Sandstone	Inactive	No
430	Curry	3	39S	14W		447		Metamorphic	Inactive	No
431	Curry	2	39S	14W		448		Sandstone	Active	No
432	Curry	10	39S	14W		449		Sandstone	Active	No
433	Curry	14	39S	14W		450		Greenstone	Inactive	Maybe
434	Curry	13	39S	14W		451		Granitic	Active	No
435	Curry	22	39S	14W		452		Sandstone	Inactive	No
436	Curry	23	39S	14W		453		Volcanics	Inactive	No
437	Curry	5	39S	13W		454		Sandstone	Inactive	No
438	Curry	5	39S	13W		455		Sandstone	Inactive	No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site umber	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
439	Curry	3	39S	13W		456		Sandstone	Inactive	No
440	Curry	18	39S	13W		458		Sandstone	Inactive	No
441	Curry	8	39S	13W		457		Greenstone	Inactive	Maybe
442	Curry	32	39S	13W		460		Greenstone	Inactive	Maybe
443	Curry	25	39S	13W		459		Sandstone	Inactive	No
444	Curry	3	39S	12W		461		Sandstone	Inactive	No
445	Curry	8	39S	12W		462		Sandstone	Active	No
446	Curry	19	39S	12W		464		Metamorphic	Active	No
447	Curry	19	39S	12W		466		Metamorphic	Inactive	No
448	Curry	19	39S	12W		465		Sandstone	Inactive	No
449	Curry	31	39S	12W		467		Granitic	Inactive	No
450	Curry	35	39S	12W		468		Sandstone	Inactive	No
450a	Josephine	30	39S	8W			271	Serpentinite		Yes
451	Josephine	27	39S	8W			269	Volcanics		No
452	Josephine	3	39S	7W			258	Volcanics		No
453	Josephine	13	39S	7W			259	Volcanics		No
454	Josephine	3	39S	6W			252	Volcanics		No
455	Josephine	2	39S	6W			251	Volcanics		No
456	Josephine	18	39S	6W			255	Volcanics		No
457	Josephine	12	39S	6W			253	Volcanics		No
458	Josephine	29	39S	6W			257	Metamorphic		No
459	Josephine	23	39S	6W			256	Volcanics		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site umber	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
460	Josephine	13	39S	6W			254	Volcanics		No
461	Josephine	21	39S	5W			248	Granitic		No
462	Josephine	14	39S	5W			247	Volcanics		No
463	Josephine	13	39S	5W			245	Volcanics		No
464	Josephine	14	39S	5W			246	Volcanics		No
465	Josephine	30	39S	5W			249	Granitic		No
466	Josephine	31	39S	5W			250	Granitic		No
467	Jackson	10	39S	3W				Volcanics		No
468	Jackson	25	39S	3W	15-0031			Volcanics		No
469	Jackson	32	39S	1W	15-0014			Serpentinite?		Yes
470	Jackson	8	39S	1E				Granitic		No
471	Jackson	32	39S	1E				Granitic		No
472	Curry	3	40S	14W		469		Metamorphic	Inactive	No
473	Curry	12	40S	14W		470		Metamorphic	Inactive	No
474	Curry	26	40S	14W		471		Metamorphic	Inactive	No
475	Curry	26	40S	14W		472		Greenstone	Inactive	Maybe
475a	Curry	25	40S	14W		473		Sandstone	Inactive	No
476	Curry	1	40S	13W		474		Sandstone	Inactive	No
476a	Curry	12	40S	13W		475		Sandstone	Inactive	No
477	Curry	12	40S	13W		476		Sandstone	Active	No
477a	Curry	24	40S	13W	08-0006	480		Greenstone	Inactive	Maybe

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site umber	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
478	Curry	19	40S	13W		478		Sandstone	Inactive	No
479	Curry	19	40S	13W		479		Volcanics	Active	No
480	Curry	30	40S	13W	08-0032	481		Sandstone	Active	No
481	Curry	32	40S	13W		482		Sandstone	Active	No
482	Curry	32	40S	13W	08-0027	483		Sandstone	Active	No
483	Curry	33	40S	13W		487		Sandstone	Inactive	No
484	Curry	35	40S	13W		492		Sedimentary	Inactive	No
485	Curry	9	40S	12W		493		Sandstone	Inactive	No
486	Curry	17	40S	12W		494		Sedimentary	Inactive	No
487	Curry	15	40S	12W		495		Granitic	Inactive	No
488	Curry	19	40S	12W		496		Sandstone	Inactive	No
489	Curry	19	40S	12W		497		Metamorphic	Inactive	No
490	Curry	29	40S	12W		498		Sandstone	Inactive	No
491	Curry	28	40S	12W		499		Sandstone	Inactive	No
492	Curry	32	40S	12W		501		Sandstone	Inactive	No
493	Curry	32	40S	12W		502		Sandstone	Inactive	No
494	Curry	32	40S	12W		504		Granitic	Inactive	No
495	Curry	32	40S	12W		503		Granitic	Inactive	No
496	Curry	27	40S	12W		500		Sandstone	Inactive	No
497	Josephine	27	40S	8W	17-0019		298	Volcanics	Inactive	No
498	Josephine	10	40S	7W			282	Volcanics		No
499	Josephine	10	40S	7W			283	Limestone		No

TABLE 2 . SURVEY DATA FOR SOUTHWESTERN OREGON MAP

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Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified?
		Sec.	Twnshp.	Rnge.						
500	Josephine	14	40S	7W			284	Volcanics		No
501	Josephine	21	40S	7W			285	Volcanics		No
502	Josephine	29	40S	7W			288	Volcanics		No
503	Josephine	23	40S	7W			286	Volcanics		No
504	Josephine	26	40S	7W			287	Volcanics		No
505	Josephine	35	40S	7W			289	Volcanics		No
506	Josephine	7	40S	6W			279	Volcanics		No
507	Josephine	35	40S	6W			281	Volcanics		No
508	Josephine	21	40S	5W			278	Granitic		No
509	Josephine	15	40S	5W			277	Metamorphic		No
510	Josephine	13	40S	5W			276	Granitic		No
511	Josephine	12	40S	5W			275	Volcanics		No
512	Jackson	32	40S	2E	15-0120			Volcanics		No
512a	Jackson	33	40S	2E	15-0133			Volcanics		No
513	Jackson	33	40S	2E	15-0126			Volcanics		No
514	Curry	3	41S	13W		505		Metamorphic	Inactive	No
515	Curry	10	41S	13W		506		Sedimentary	Active	No
516	Curry	15	41S	13W		507		Greenstone	Inactive	Maybe
517	Curry	14	41S	13W		508		Sedimentary	Inactive	No
518	Curry	3	41S	12W		510		Sedimentary	Active	No
519	Curry	3	41S	12W	08-0047	511		Sedimentary	Inactive	No

TABLE 2. SURVEY DATA FOR SOUTHWESTERN OREGON MAP

Site Number	County	Legal Description			Division of Mined Lands Reclamation Site Numbers	Ramp, Schlicker and Gray - 1977 Site Numbers	Schlicker, Schmuck and Pescador-1975 Site Numbers	Rock Type	Status	Further Site Study Justified
		Sec.	Twnshp.	Rnge.						
520	Curry	5	41S	11W		512		Sandstone	Active	No
521	Josephine	4	41S	8W			309	Volcanics		No
522	Josephine	15	41S	8W			310	Volcanics		No
523	Josephine	15	41S	7W			308	Metamorphic		No
524	Josephine	12	41S	7W			307	Volcanics		No
525	Josephine	5	41S	5W			302	Volcanics		No
526	Josephine	5	41S	5W			301	Granitic		No
527	Josephine	3	41S	5W			300	Volcanics		No
528	Josephine	12	41S	5W			305	Metamorphic		No
529	Josephine	6	41S	5W			304	Metamorphic		No
530	Josephine	5	41S	5W			303	Volcanics		No
531	Josephine	15	41S	5W			306	Volcanics		No
532	Jackson	9,10, 11	41S	3W				Asbestiform Mineral	Active	Yes[8]

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[1] The resource has been mined out.

[2] The site has been reclaimed.

[3] Deposit name - Liberty Asbestos.

[4] Asbestiform mineral has been identified in crushed rock from this quarry.

[5] Deposit name - Raspberry Creek.

[6] Deposit name - L. E. J. Asbestos.

[7] Deposit name - Forster Asbestos.

[8] This deposit is being mined for soapstone. Material is sold for carvings.

13 pgs

RECONNAISSANCE MAP of SERPENTIN
ASBESTOS OCCURRENCES & NEARBY STO
# of SOUTHWESTERN OREGON
1978

LEGEND

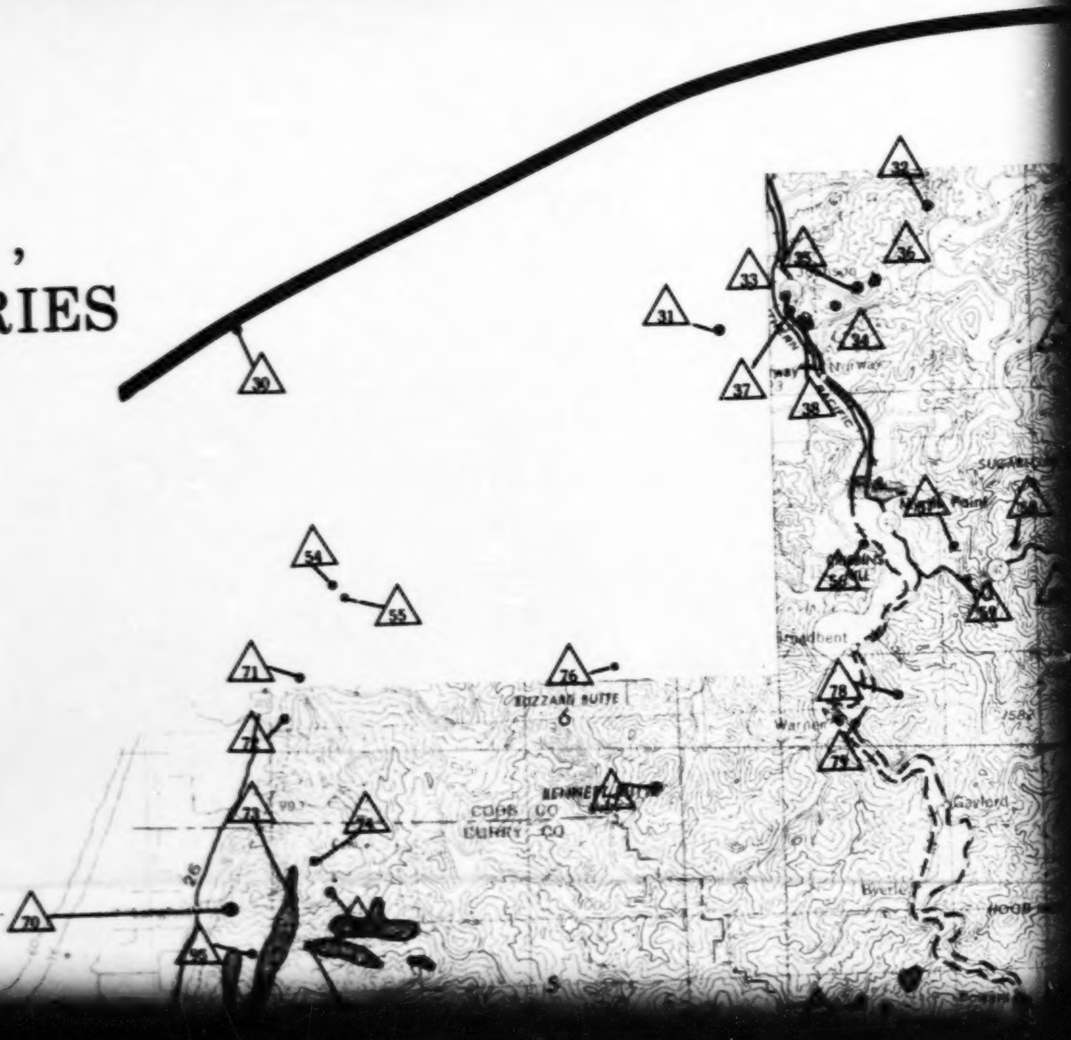
░ SERPENTINITE

TINITE ROCK,
STONE QUARRIES
GON

D

NITE

LATERITE


30
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36
37
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Norway
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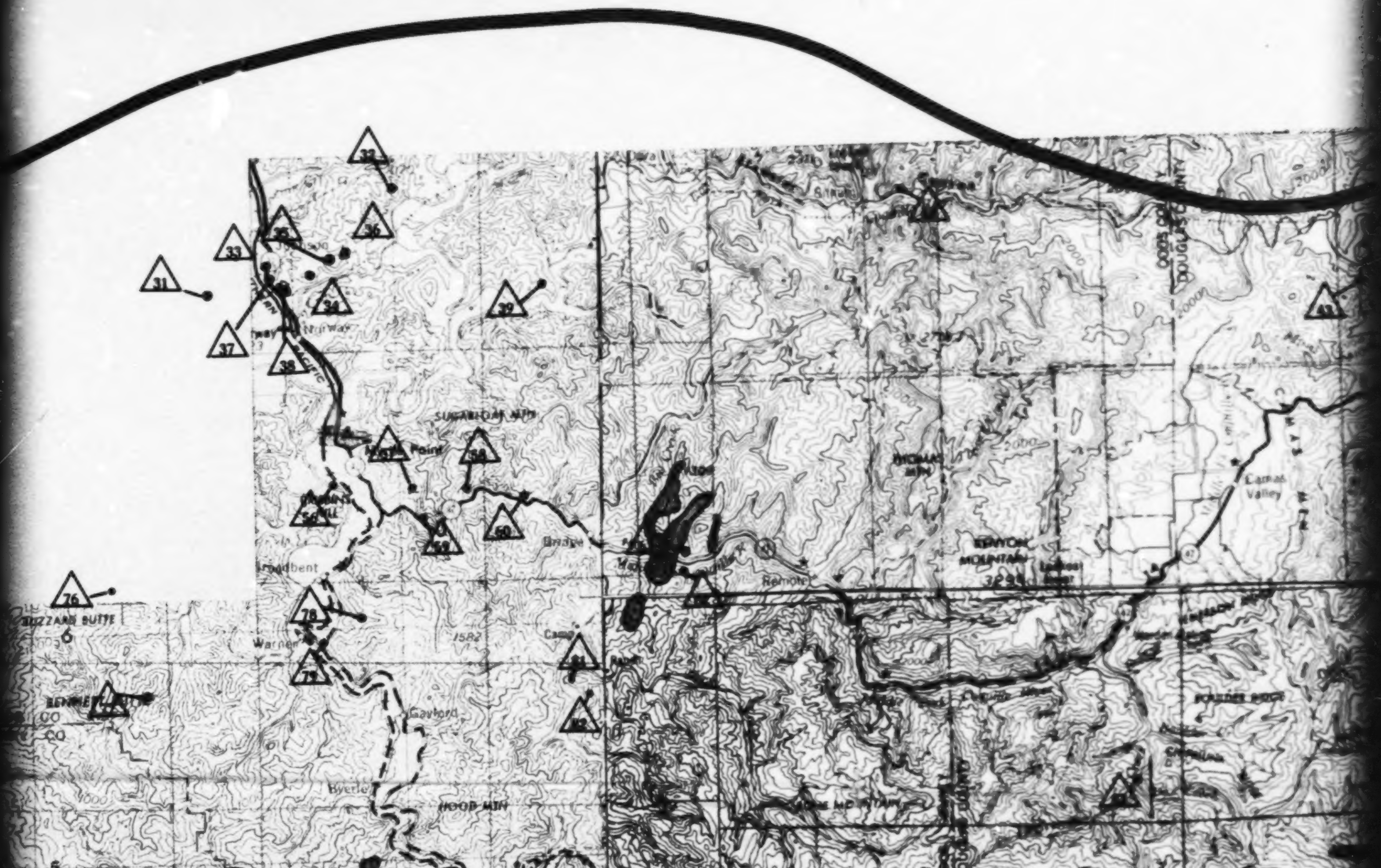
BUZZARD BUTTE
6
Broadbent
Warner
Gaylord
COOS CO
CURRY CO
26
5
1582


31
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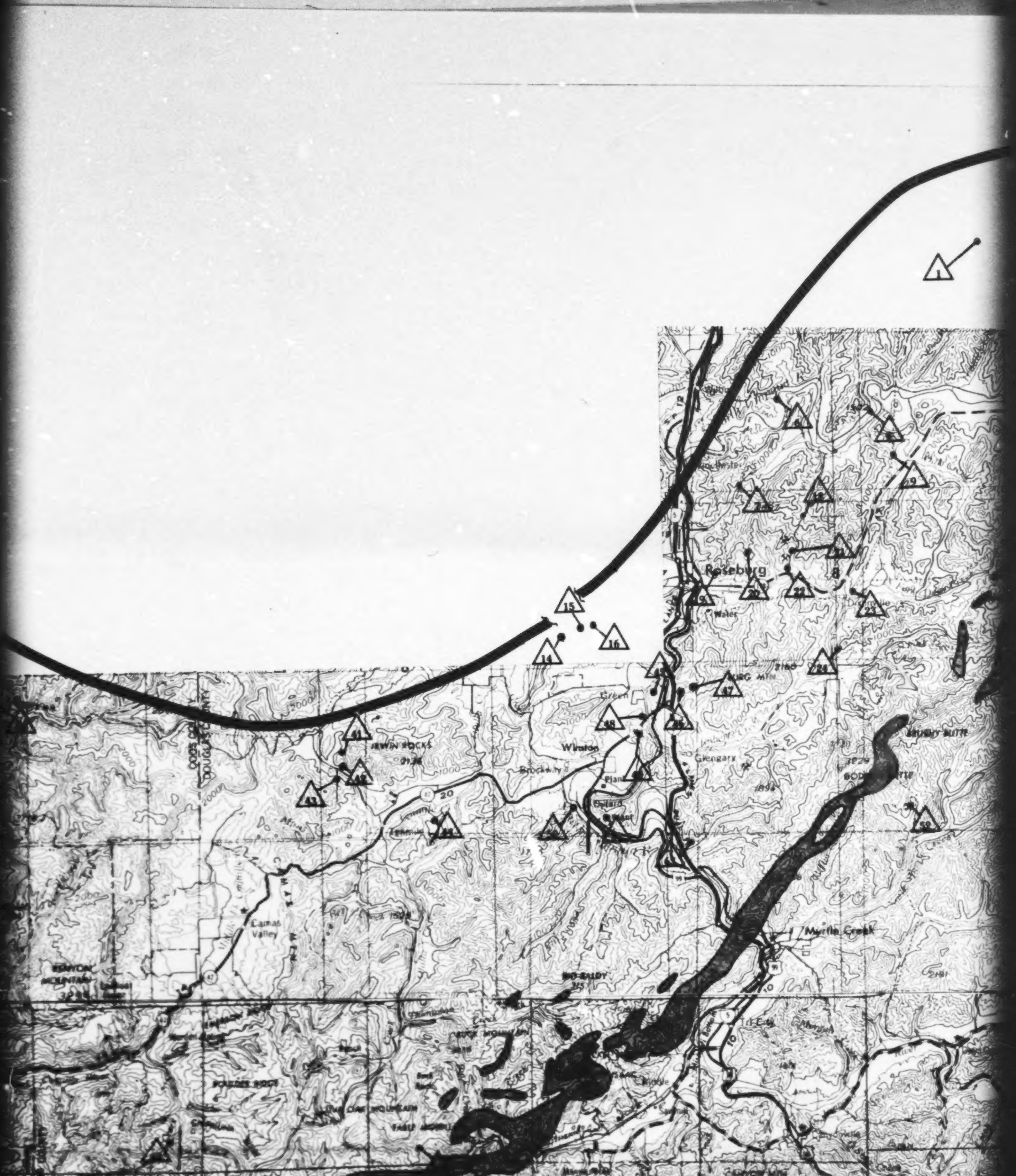
43
Norway
SUGARLOAF MTN
Point
58
59
60
Bridge
Broadbent
76
BUZZARD BUTTE
6
78
Warner
79
1582
Camp
81
82
Gaylord
Byerle
HOOD MTN
5
Remote
THOMAS MTN
KENYON MOUNTAIN
3290
COOS CO
DOUGLAS COUNTY
2000
Camas Valley
BOULDER RIDGE
CO
CO

1
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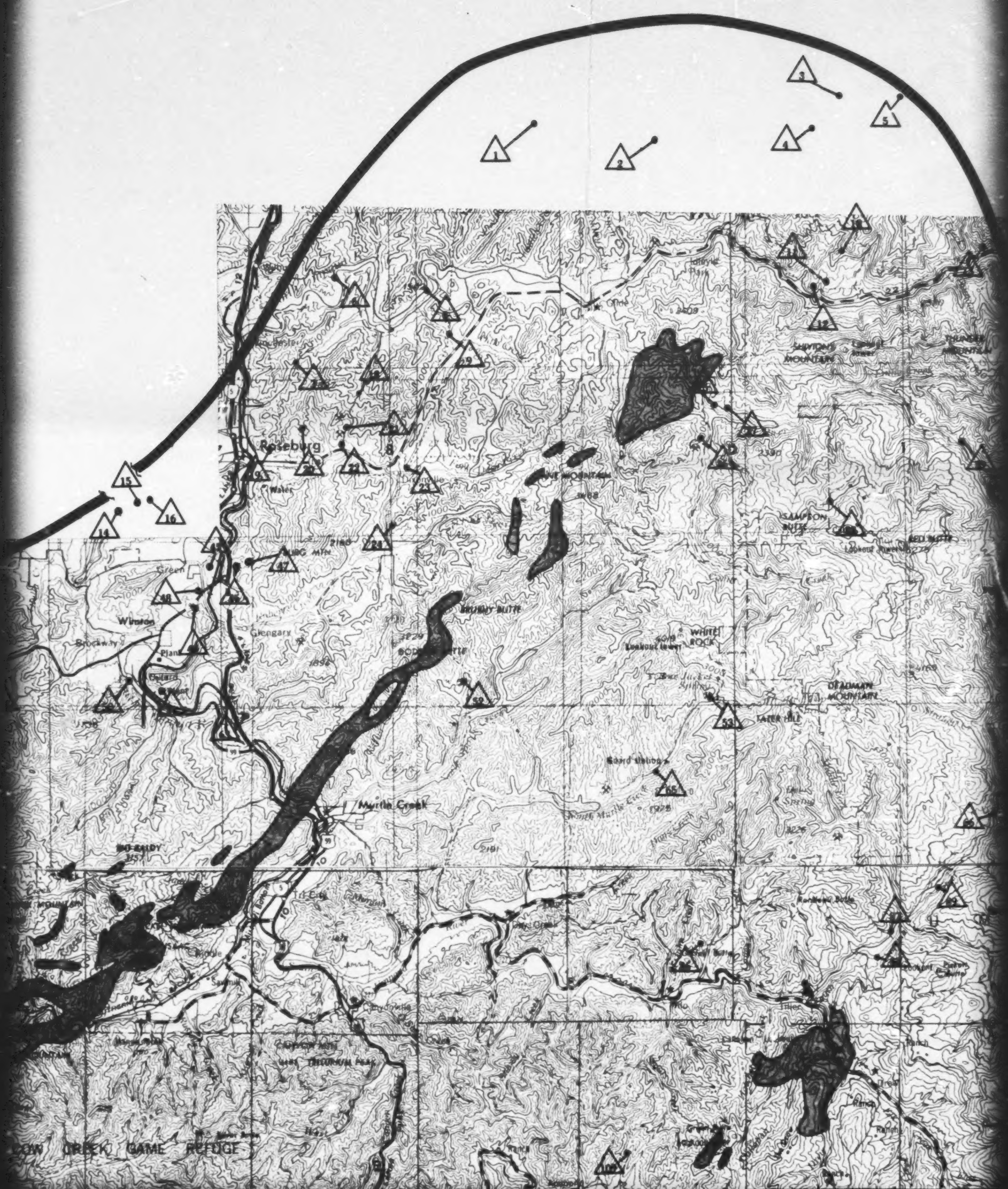
48
41
42
43
44
50
Roseburg
Green
Winston
Brockway
Glengary
Camas Valley
Myrtle Creek
Riddle
Tri City
JEWIN ROCKS
KENYON MOUNTAIN
BIG BALDY
20
2181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47
48
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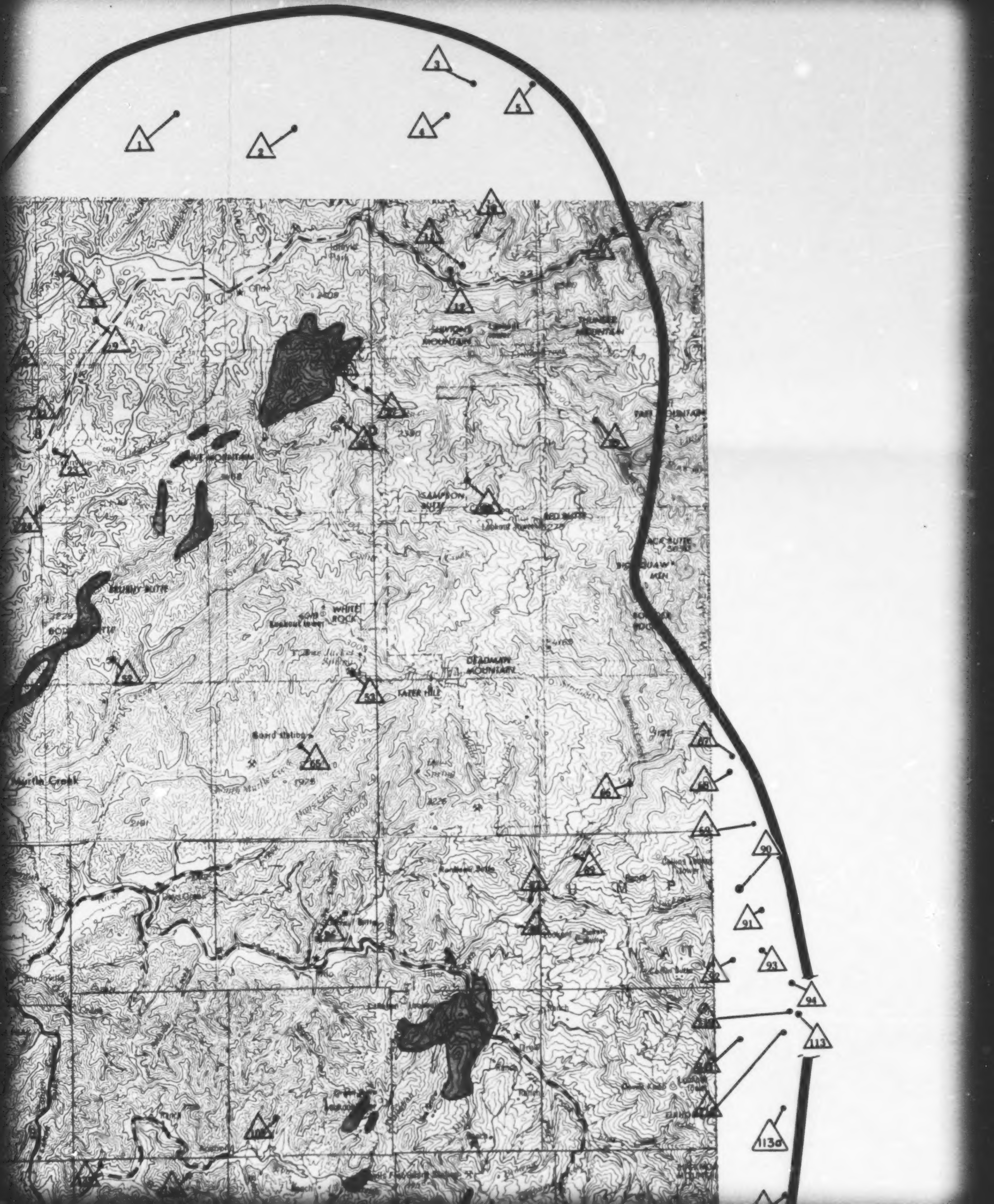
53
65
102
Roseburg
Winston
Green
Brockway
Glengary
Myrtle Creek
SAMPSON BUTTE
RED BUTTE
WHITE ROCK
Lookout tower
DEADMAN MOUNTAIN
TATER HILL
BRUSHY BUTTE
COW CREEK GAME REFUGE


1
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53
65
86
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88
89
90
91
92
93
94
113
113a
THUNDER MOUNTAIN
SAMPSON BUTTE
RED BUTTE
Lookout tower
BRUSHY BUTTE
WHITE ROCK
DEADMAN MOUNTAIN
TATER HILL
Guard station
Myrtle Creek
2181
1975
2226
3008
2390
5069

RECONNAISSANCE MAP of SERPENTIN
ASBESTOS OCCURRENCES & NEARBY STONE
# of SOUTHWESTERN OREGON
1978

LEGEND

░ **SERPENTINITE**

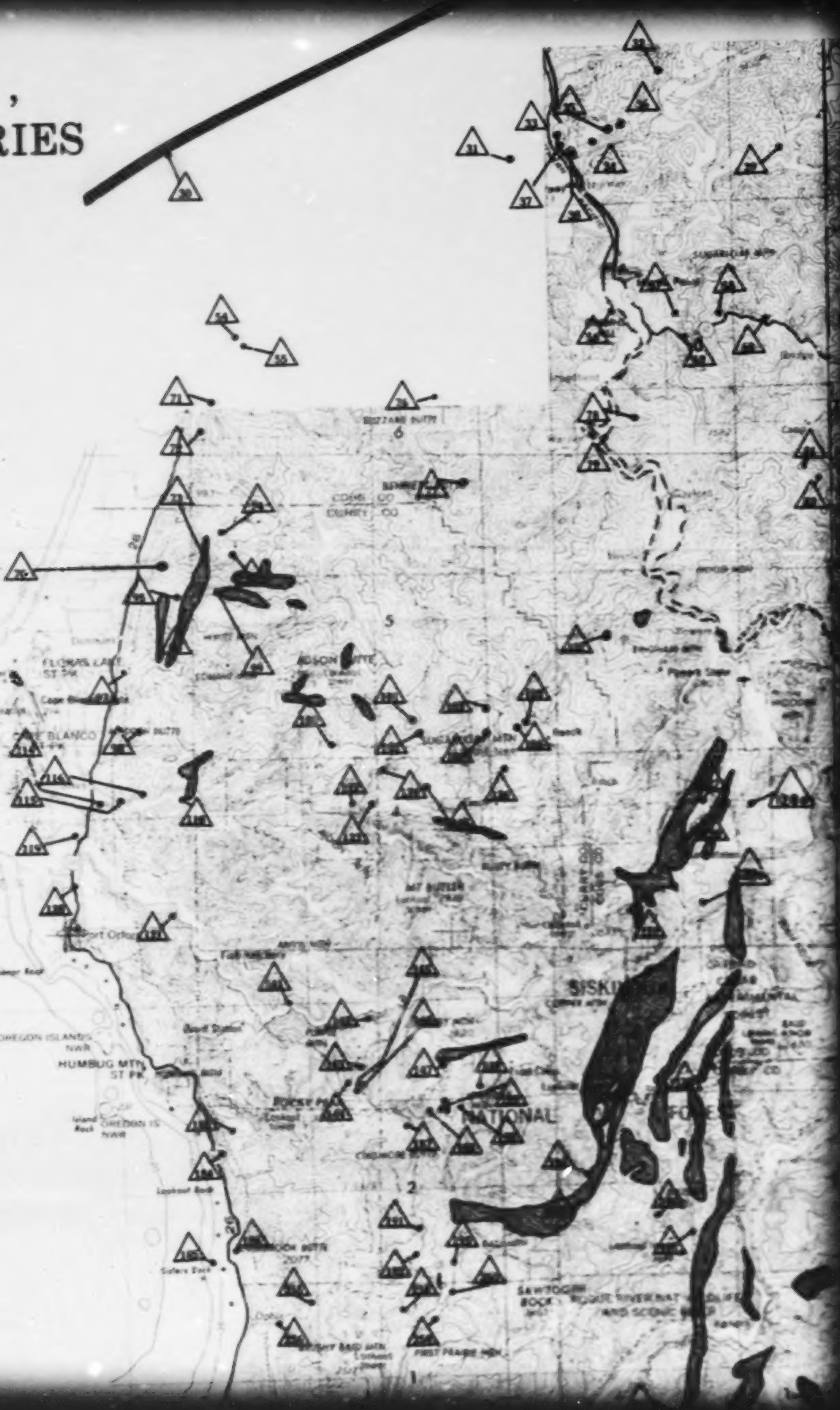
■ NICKEL LATERITE

△102 **STONE QUARRY**

☐419 **ASBESTOS DEPOSIT**

▬ **STUDY AREA**

ITE ROCK,
NE QUARRIES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55
71
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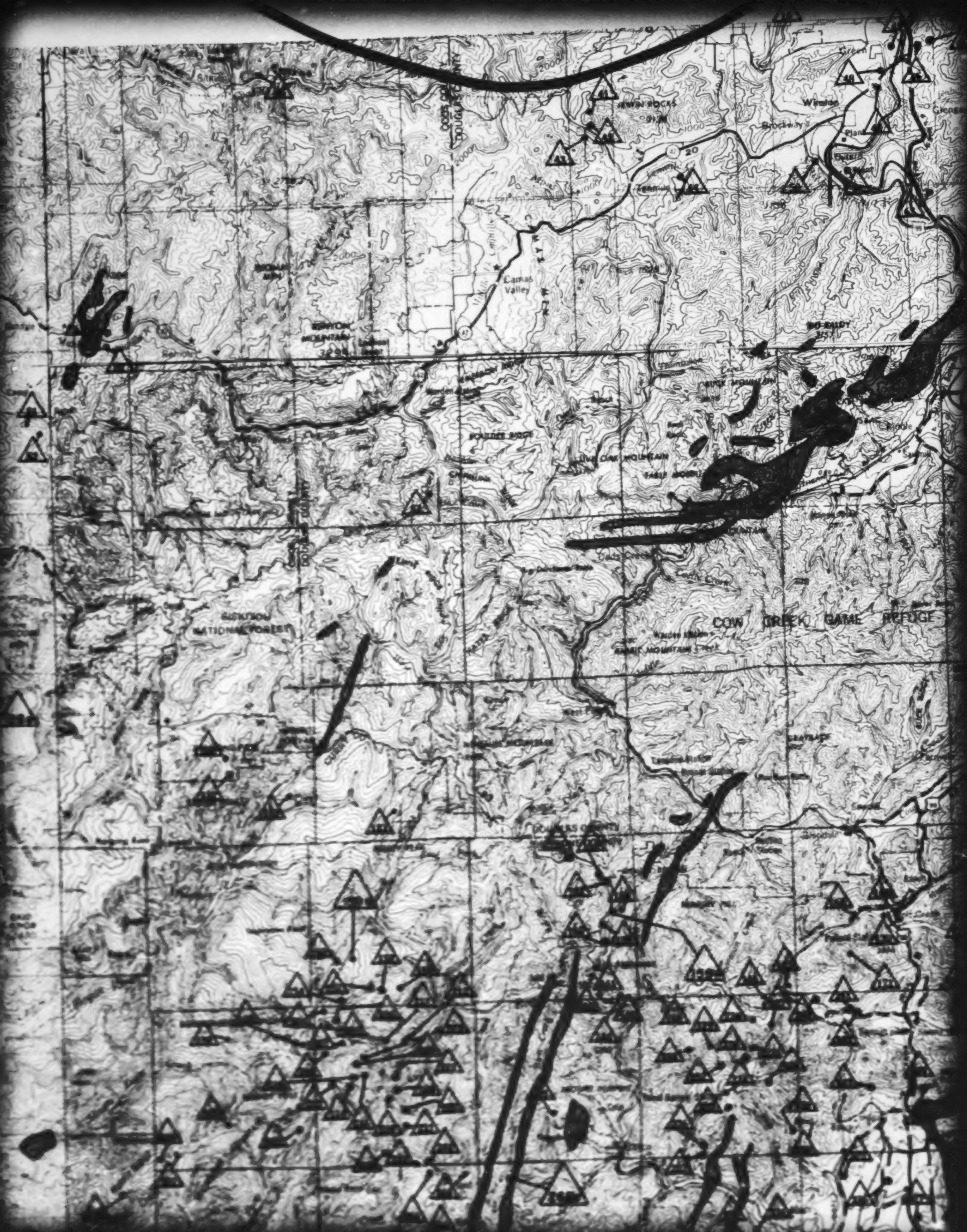
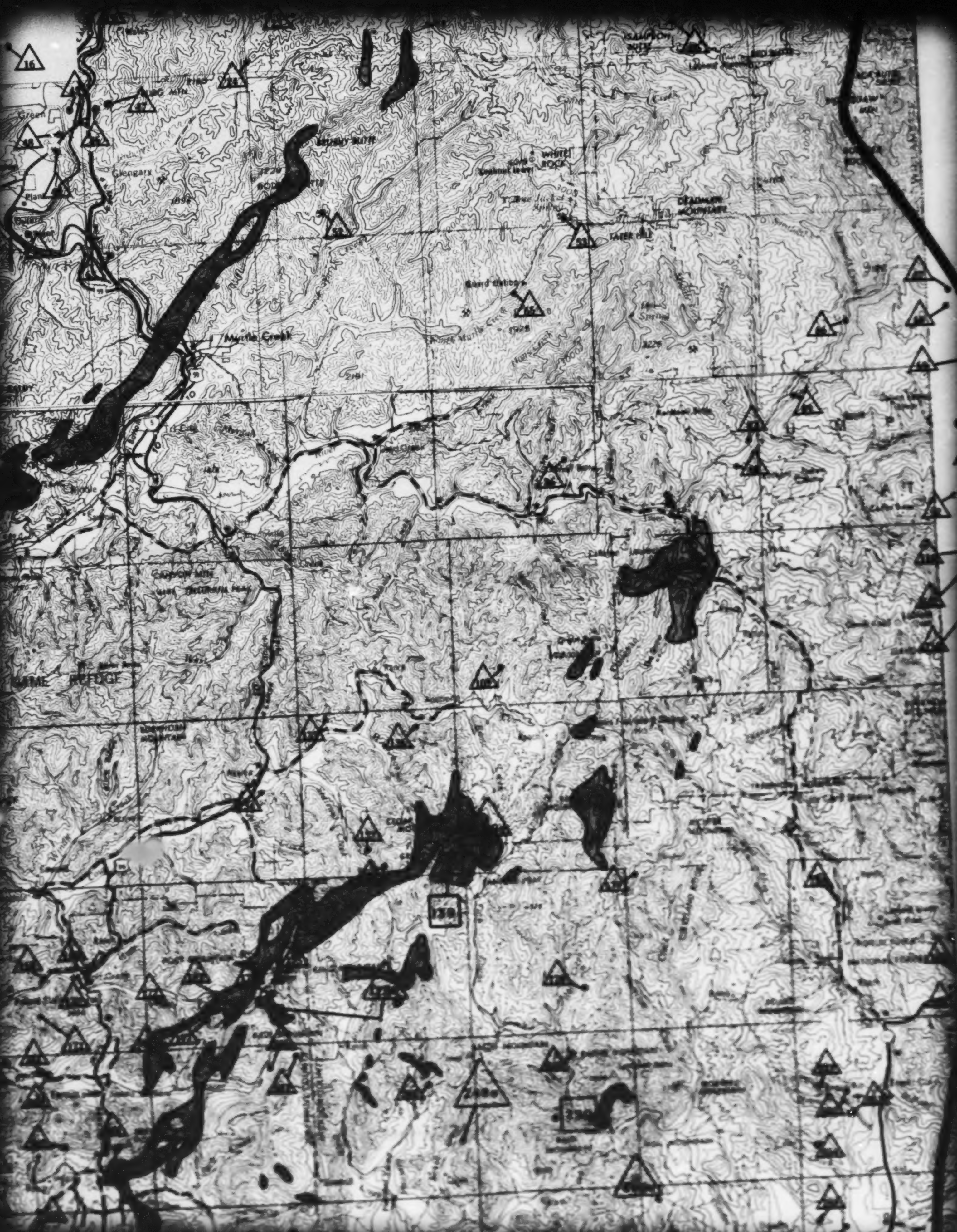
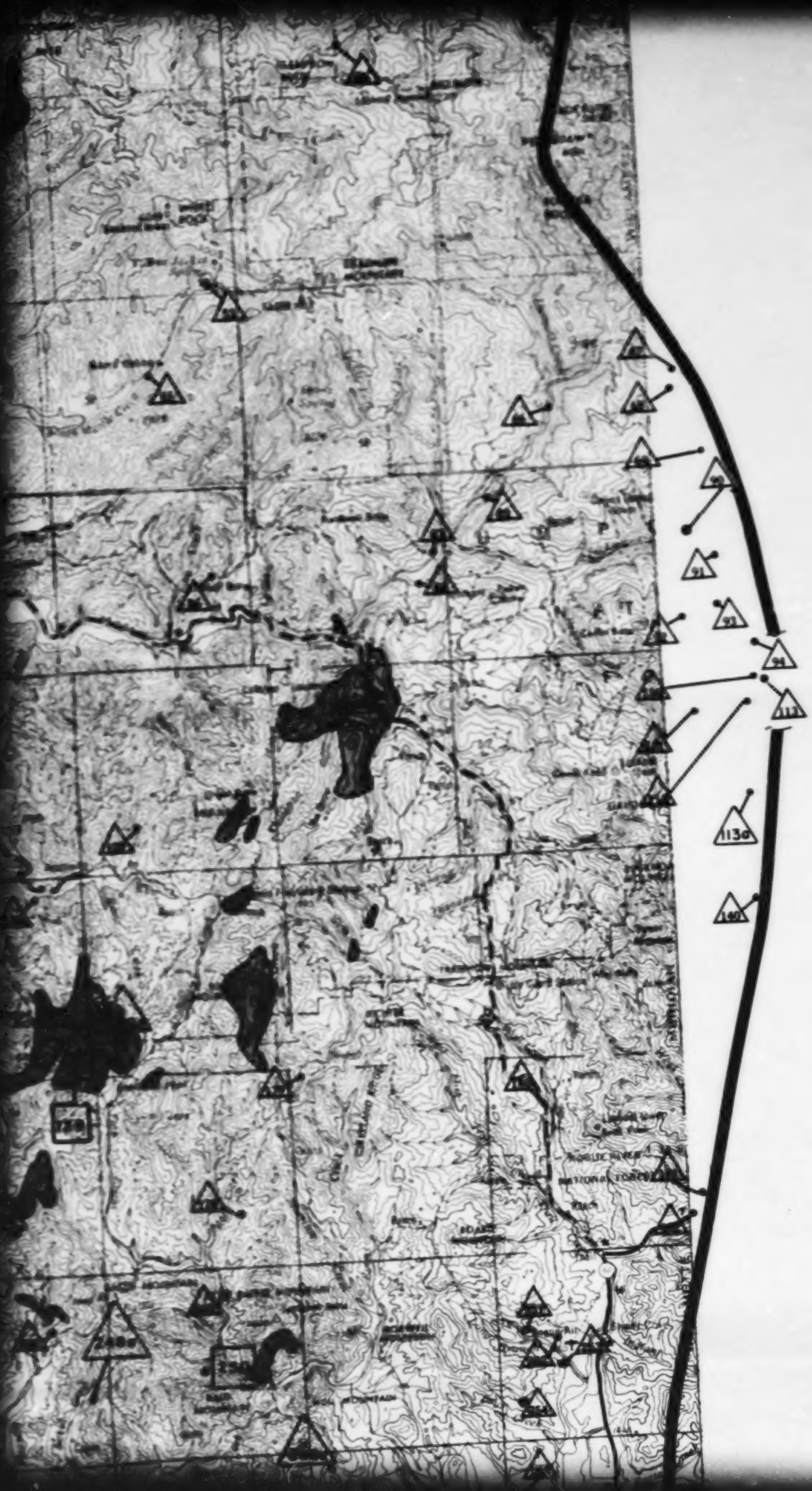
73
76
6
COOS CO
CURRY CO
5
FLORAS LAKE ST PK
Blacklock Point
Cape Blanco
CAPE BLANCO ST PK
Port Orford
OREGON ISLANDS NWR
HUMBUG MTN ST PK
Island Rock
OREGON IS NWR
Lookout Rock
Sisters Rock
SISKI
NATIONAL
FO
2
SAWTOOTH ROCK
ROGUE RIVER NAT WILD AND SCENIC RIVER
1

ITE

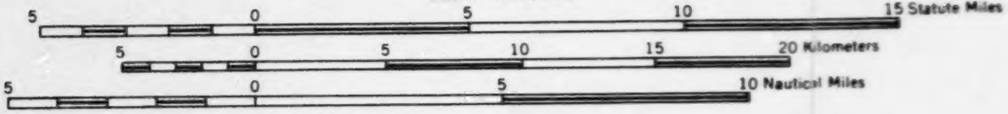
T


Camas Valley
Brockway
Winston
20
42
COW CREEK GAME REFUGE
SISKIYOU NATIONAL FOREST
BOULDER RIDGE
Riddle
2000
1000


16
38
47
52
53
55
Glengary
BRUSHY BUTTE
WHITE ROCK
DEADMAN MOUNTAIN
TATER HILL
Myrtle Creek
GAME REFUGE
130


91
93
94
113
113a
100

Scale 1:250,000



CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

TRANSVERSE MERCATOR PROJECTION

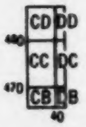
BLACK NUMBERED LINES INDICATE THE 10,000 METER UNIVERSAL TRANSVERSE MERCATOR GRID. ZONE 10

MAGNETIC DECLINATION FOR 1970 IS 19½° (350 MILS) EASTERLY OVER THE ENTIRE AREA

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR RESTON, VIRGINIA 22092

GRID ZONE DESIGNATION:
10T

100,000 M. SQUARE IDENTIFICATION



IGNORE the SMALLER figures of any grid number; these are for finding the full coordinates. Use ONLY the LARGER figure of the grid number; example: 4660000

TO GIVE A STANDARD REFERENCE ON THIS SHEET TO NEAREST 1000 METERS			
SAMPLE POINT: **PISTOL RIVER**			
1. Read letters identifying 100,000 meter square in which the point lies:	CB		
2. Locate first VERTICAL grid line to LEFT of point and read LARGE figure labeling the line either in the top or bottom margin, or on the line itself: Estimate tenths from grid line to point:		8 5	
3. Locate first HORIZONTAL grid line BELOW point and read LARGE figure labeling the line either in the left or right margin, or on the line itself: Estimate tenths from grid line to point:			8 1
SAMPLE REFERENCE:	CB8581		
If reporting beyond 18° in any direction, prefix Grid Zone Designation, as:	10TCB8581		

Base map

Prepared by the U.S. Army Topographic Command (KCDV), Washington, D.C. Compiled in 1958 from United States quadrangles 1:48,000, 1:50,000, and 1:62,500, 1942-55; USC&GS Charts 5802, 5702, 1947-48. Planimetry revised in part from aerial photographs taken 1957. Map field checked 1958. Revised in 1974 by the U.S. Geological Survey from aerial photographs taken 1973.

Selected hydrographic data compiled from USC&GS charts
This information is not intended for navigational purposes

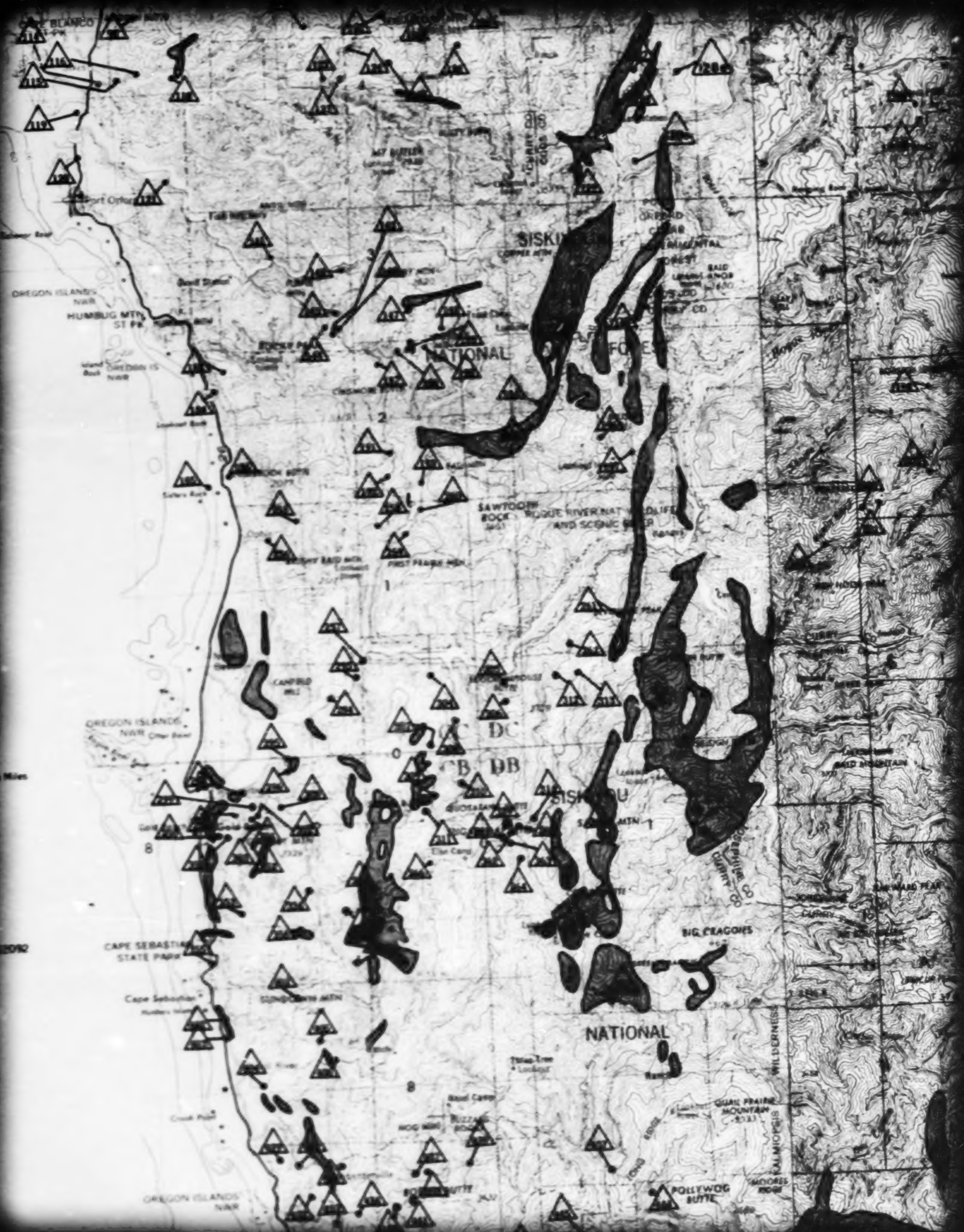
100,000-foot grids based on Oregon coordinate system, south zone

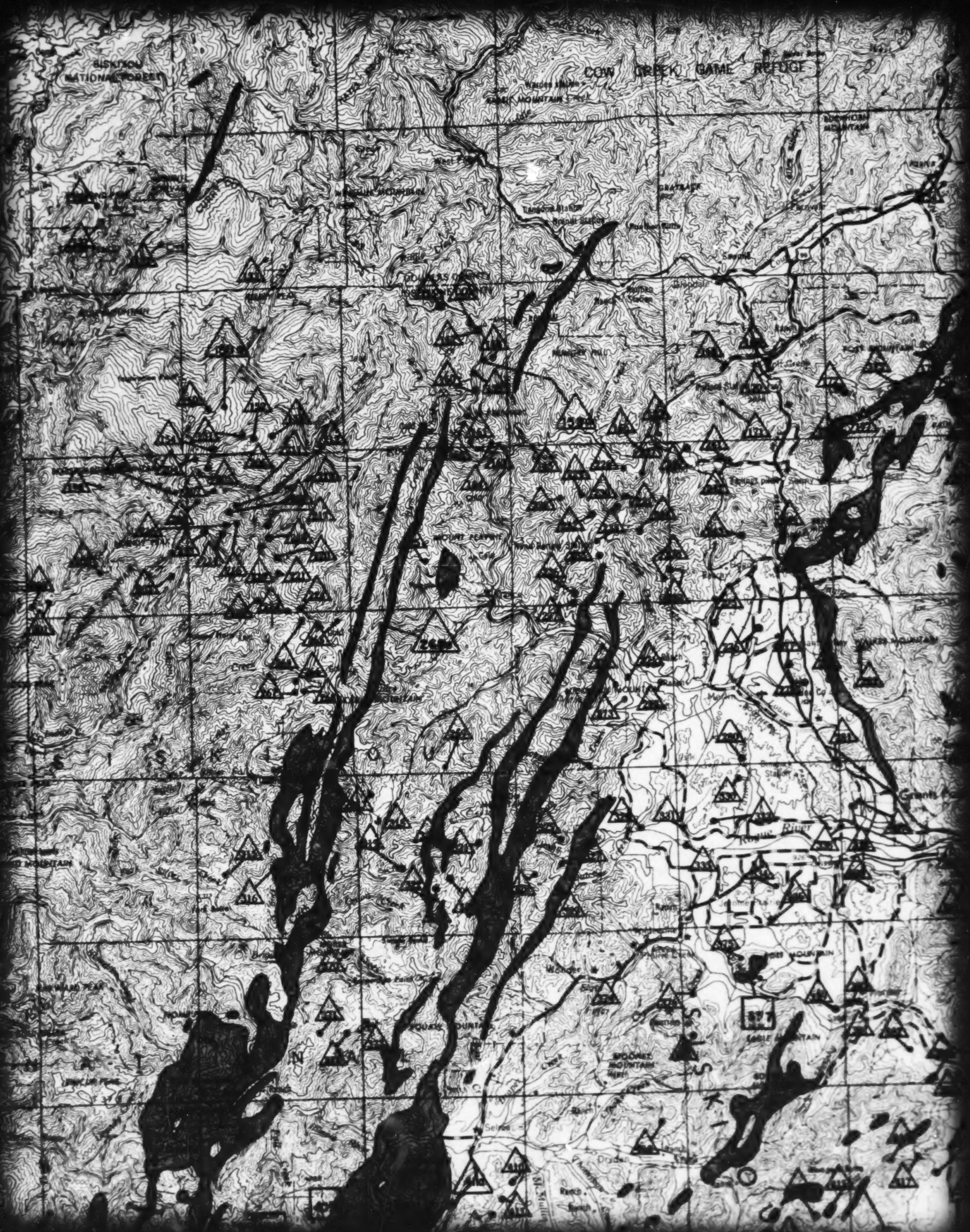
Location of geodetic control established by government agencies is shown on corresponding 1:250,000-scale Geodetic Control Diagram

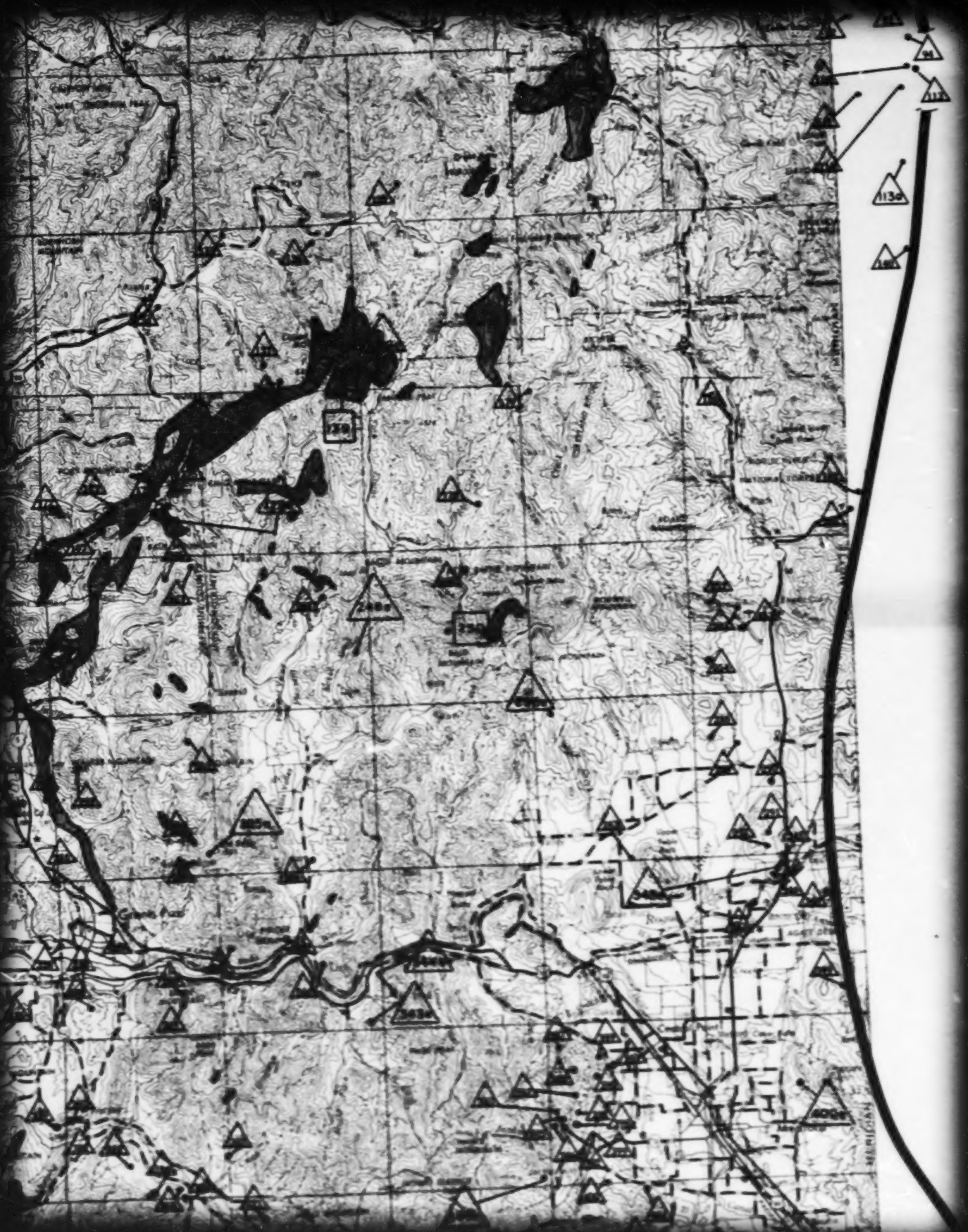
LOCATION DIAGRAM

124°05'
120°
46°

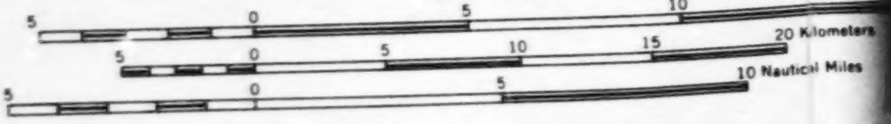
SECTIONIZED TOWNSHIP


CAPE BLANCO
Port Orford
OREGON ISLANDS NWR
HUMBUG MTN ST PK
SISKIYOU
NATIONAL
FOREST
SAWTOOTH ROCK
ROGUE RIVER NAT WILDLIFE AND SCENIC RIVER
DC
CB
DB
OREGON ISLANDS NWR
CAPE SEBASTIAN STATE PARK
Cape Sebastian
BIG CRAGGIES
NATIONAL
QUAIL PRAIRIE MOUNTAIN
KALMIOPSIS
WILDERNESS
POLLYWOG BUTTE
OREGON ISLANDS NWR
CURRY


SISKIYOU NATIONAL FOREST
COW CREEK GAME REFUGE
Rogue River
Grants Pass
EAGLE MOUNTAIN



Scale 1:250,000


5
0
5
10
20 Kilometers
5
0
5
10
15
10 Nautical Miles
5
0
5

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

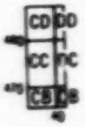
TRANSVERSE MERCATOR PROJECTION

BLACK NUMBERED LINES INDICATE THE 10,000 METER UNIVERSAL TRANSVERSE MERCATOR GRID ZONE 10

MAGNETIC DECLINATION FOR 1970 IS 19½° (350 MILS) EASTERLY OVER THE ENTIRE AREA

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR RESTON, VIR

GRID ZONE DESIGNATION:
10T
100,000 M. SQUARE IDENTIFICATION


CD
DD
CC
DC
CB
DB

IGNORE the SMALLER figures of any grid number; these are for finding the full coordinates. Use ONLY the LARGER figure of the grid number. example: 46C000

TO GIVE A STANDARD REFERENCE ON THIS SHEET TO NEAREST 1000 METERS

SAMPLE POINT: PISTOL RIVER

1. Read letters identifying 100,000 meter square in which the point lies.	CB		
2. Locate first VERTICAL grid line to LEFT of point and read LARGE figure labeling the line either in the top or bottom margin, or on the line itself. Estimate tenths from grid line to point.		8 5	
3. Locate first HORIZONTAL grid line BELOW point and read LARGE figure labeling the line either in the left or right margin, or on the line itself. Estimate tenths from grid line to point.			8 1
SAMPLE REFERENCE	CB8581		
If reporting beyond 18° in any direction, prefix Grid Zone Designation, as:	10TCB8581		

Base map

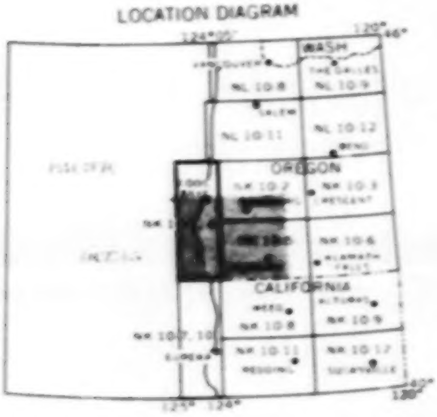
Prepared by the U.S. Army Topographic Command (KCDV), Washington, D.C. Compiled in 19 from United States quadrangles 1:48,000, 1:50,000, and 1:62,500, 1942-55; USC&GS Cha 5802, 5702, 1947-48. Planimetry revised in part from aerial photographs taken 1957. Map fi checked 1958. Revised in 1974 by the U.S. Geological Survey from aerial photographs taken 197

Selected hydrographic data compiled from USC&GS charts
This information is not intended for navigational purposes

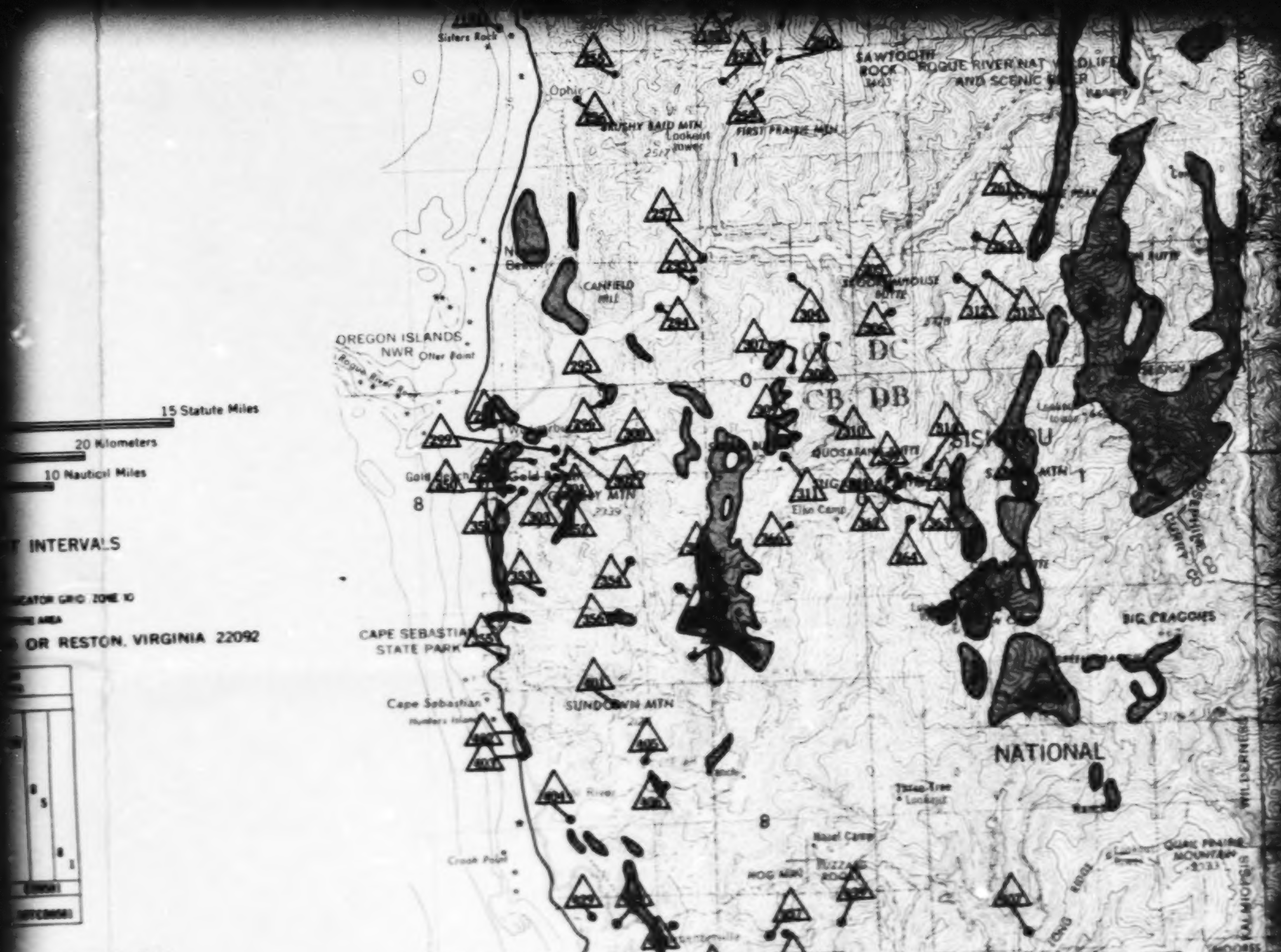
100,000-foot grids based on Oregon coordinate system, south zone

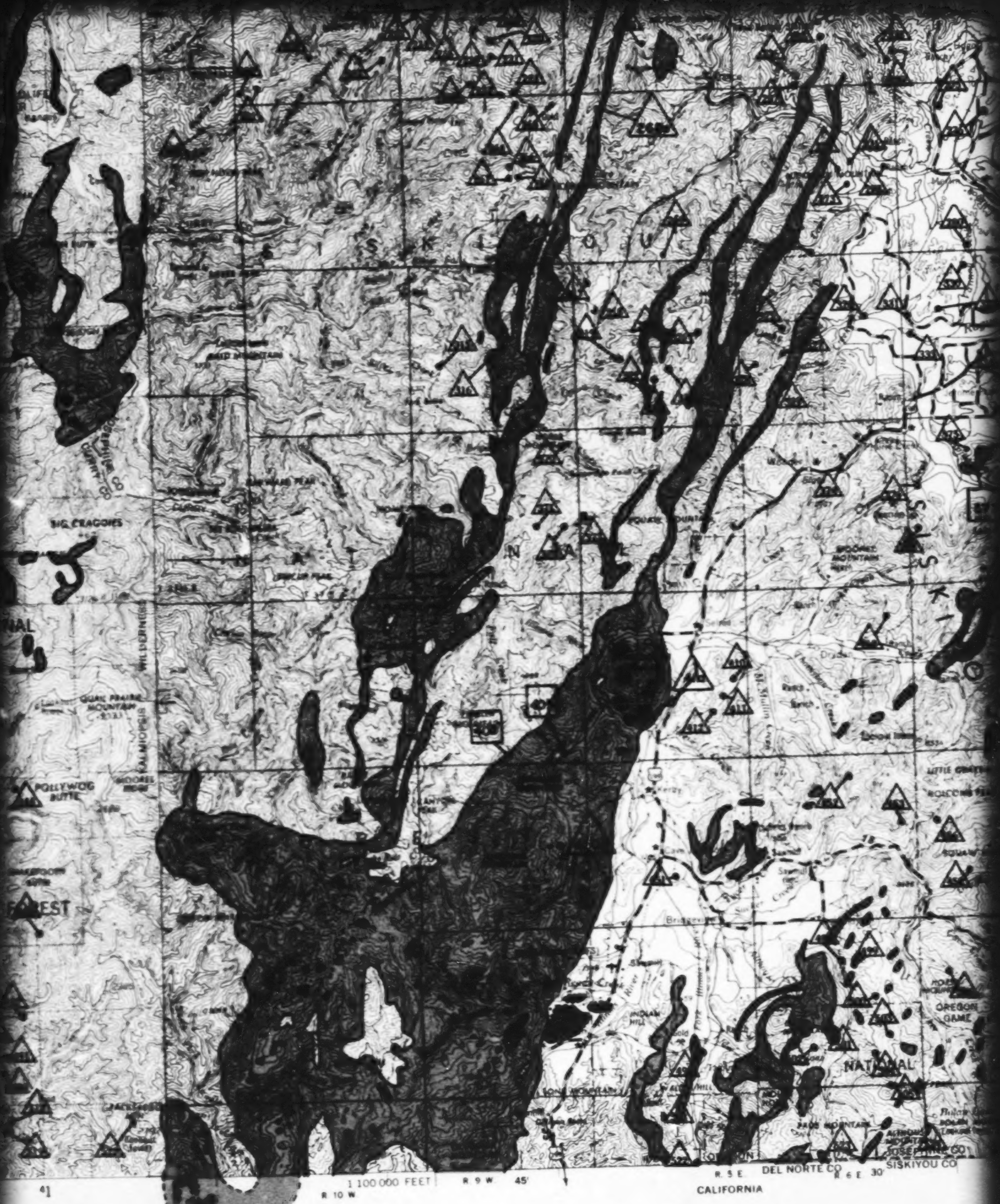
Location of geodetic control established by government agencies is shown on correspo 1:250,000-scale Geodetic Control Diagram

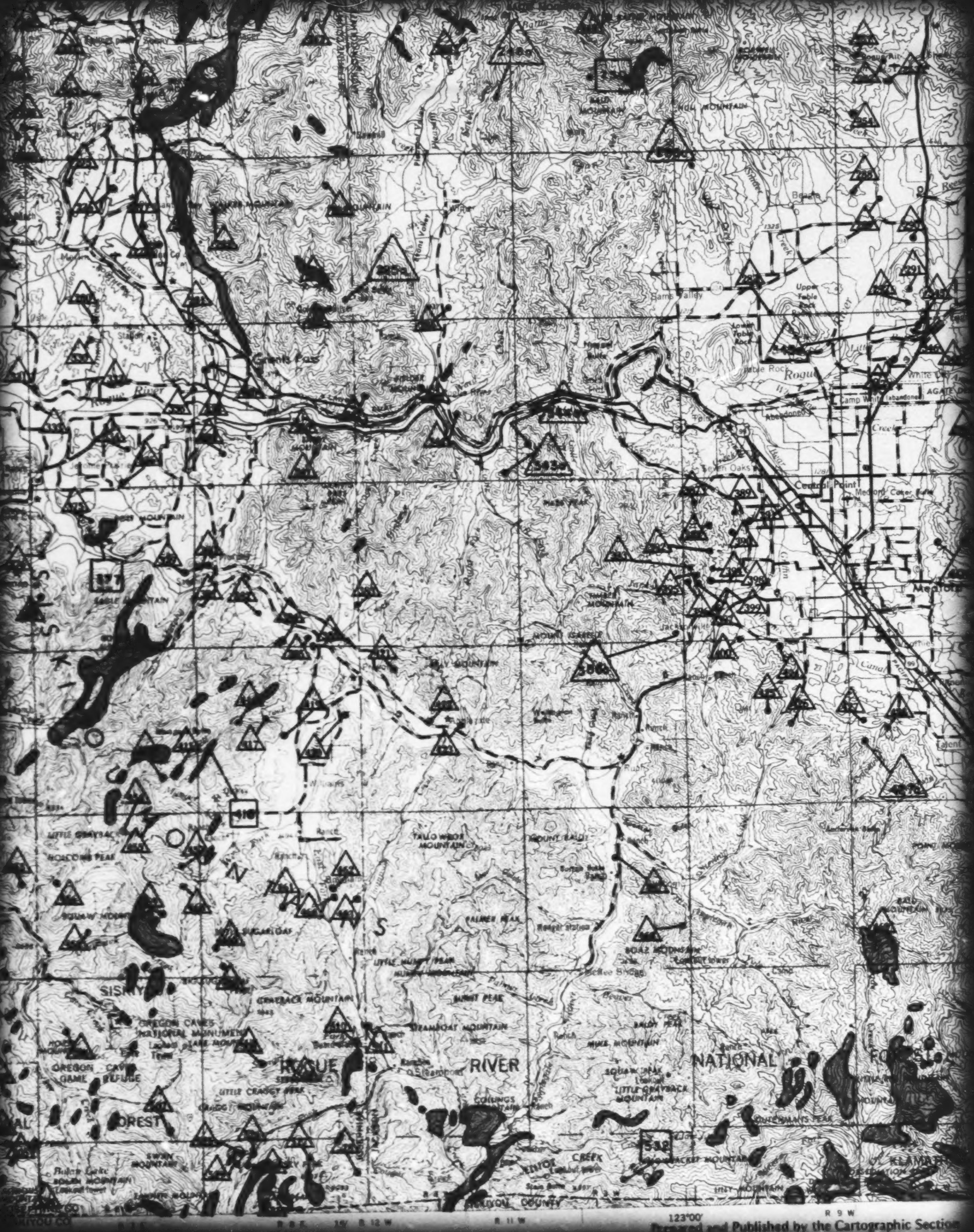
LOCATION DIAGRAM

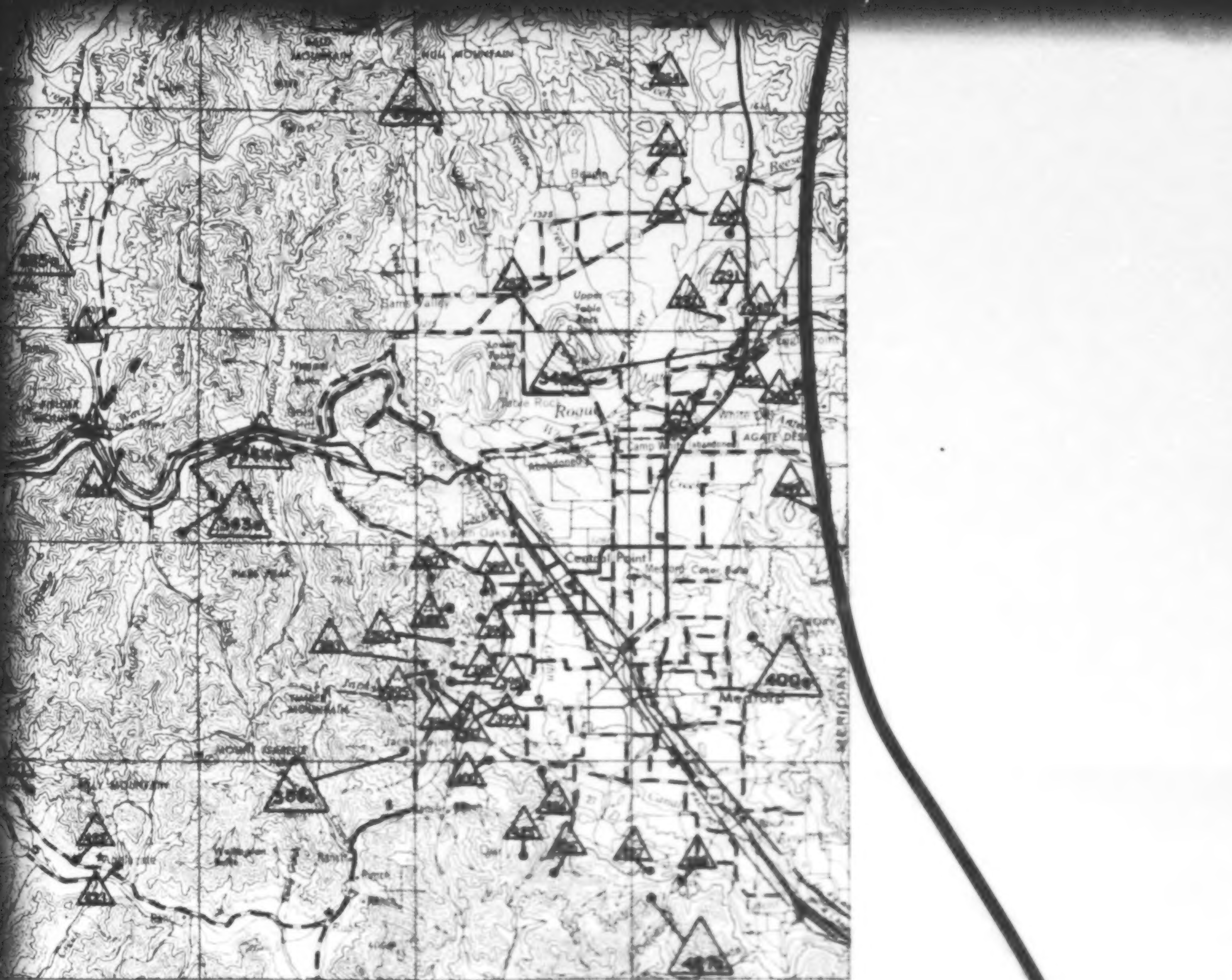

124°00'
120°
46°
WASH
THE DALLES
NL 10-8
NL 10-9
SALEM
NL 10-11
NL 10-12
BEND
PACIFIC
OREGON
NK 10-2
NK 10-3
NK 10-6
KLAMATH FALLS
OCEAN
CALIFORNIA
NK 10-8
NK 10-9
NK 10-7, 10
EUREKA
NK 10-11
NK 10-12
REDDING
SUSANVILLE
125°
124°
120°
40°

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
DONALD A. HULL, STATE GEOLOGIST


15 Statute Miles
20 Kilometers
10 Nautical Miles
INTERVALS
OR RESTON, VIRGINIA 22092
D.C. Compiled in 1958
942-55; USC&GS Charts
taken 1957. Map field
photographs taken 1973.
shown on corresponding
Sisters Rock
Ophir
BRUSHY BALD MTN
Lookout Tower
FIRST PRAIRIE MTN
SAWTOOTH ROCK
ROGUE RIVER NAT WILDLIFE AND SCENIC RIVER
CANFIELD HILL
OREGON ISLANDS NWR
Otter Point
Gold Beach
CAPE SEBASTIAN STATE PARK
Cape Sebastian
Hunters Island
SUNDOWN MTN
Crook Point
OREGON ISLANDS NWR
SAMUEL H. BOARDMAN STATE PARK
Whaleshead
OREGON ISLANDS NWR
Cape Ferrelo
Twin Rocks
OREGON ISLANDS NWR
Goat Island
Brookings
CC
DC
CB
DB
SISKIYOU
QUOSATANA BUTTE
Elko Camp
BIG CRAGGIES
NATIONAL
Three Tree Lookout
HOG MTN
BUZZARD ROOST
POLLYWOG BUTTE
QUAIL PRAIRIE MOUNTAIN
MORTON BUTTE
FOREST
WILDERNESS
KALMIOPSIS
JOSEPHINE CO
CURRY CO
PEAVINE RIDGE
38
39
15'
40
41

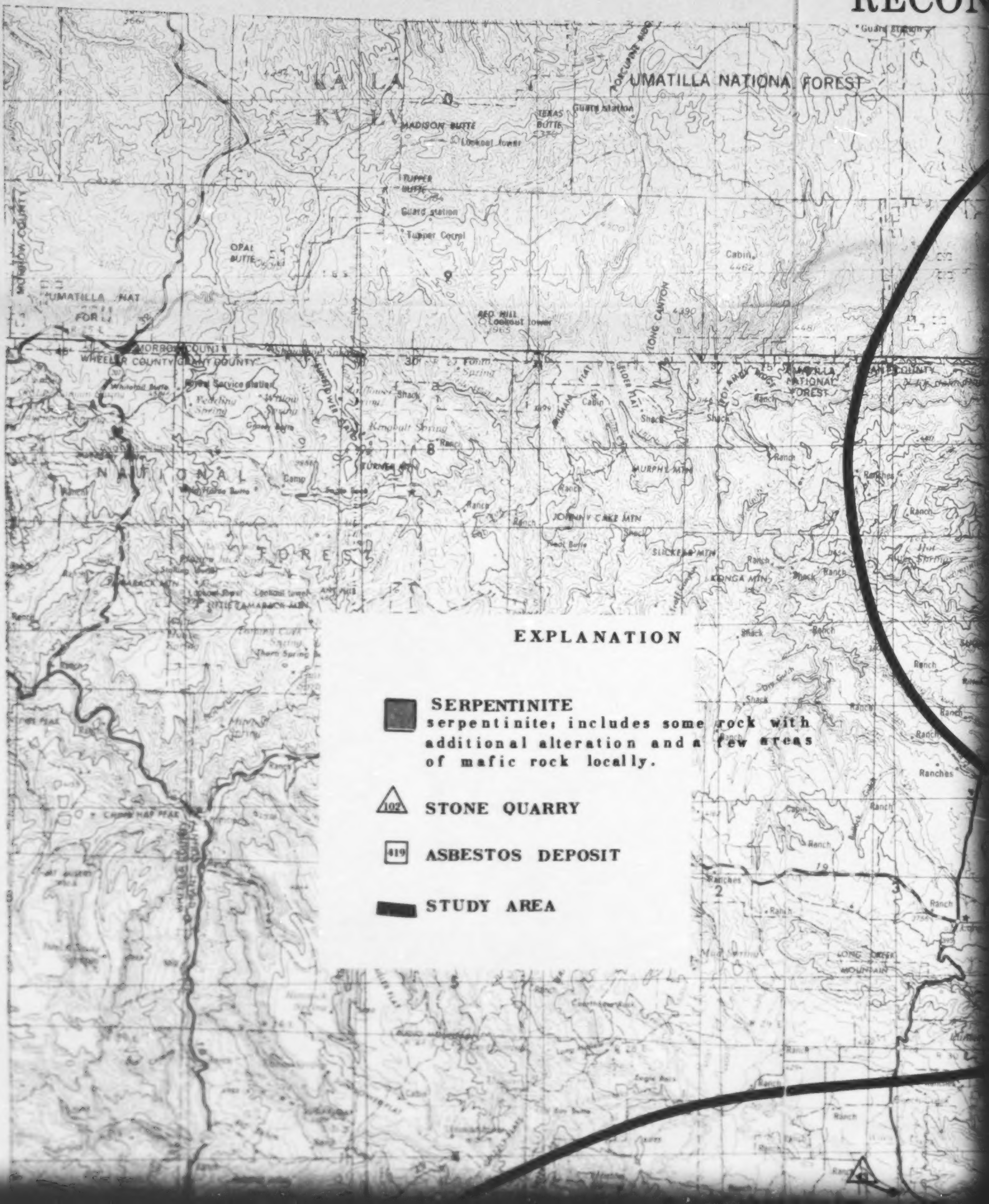
BIG CRAGGIES
POLLYWOG BUTTE
QUAIL PRAIRIE MOUNTAIN
KALMIOPSIS
WILDERNESS
FOREST
NATIONAL
OREGON CAVES
LITTLE GRAYBACK
HOLCOMB PEAK
Bridgeview
JOSEPHINE CO
1 100 000 FEET
R. 9 W.
45'
R. 10 W
R. 5 E.
DEL NORTE CO
R. 6 E
30'
SISKIYOU CO
CALIFORNIA
41

Grants Pass
Rogue River
Sams Valley
Upper Table Rock
Lower Table Rock
Table Rock
Rogue
White City
AGATE
Camp White (abandoned)
Seven Oaks
Central Point
Medford
Jacksonville
Talent
Canal
Creek
Williams
SEXTON MOUNTAIN
TIMBER MOUNTAIN
MOUNT GAERTE
LITTLE GRAYBACK
HOLCOMB PEAK
SQUAW MOUNTAIN
SUGARLOAF
GRAYBACK MOUNTAIN
OREGON CAVES NATIONAL MONUMENT
OREGON CAVES GAME REFUGE
STEAMBOAT MOUNTAIN
LITTLE CRAGGY PEAK
TALLOWBOX MOUNTAIN
MOUNT BALDY
PALMER PEAK
BOAZ MOUNTAIN
BALDY PEAK
SQUAW PEAK
LITTLE GRAYBACK MOUNTAIN
DUTCHMANS PEAK
SISKIYOU
ROGUE
RIVER
NATIONAL
FOREST
SWAN MOUNTAIN
KINNEY CREEK
SISKIYOU COUNTY
KLAMATH
R 9 W
R 11 W
R 12 W
123°00'
Prepared and Published by the Cartographic Section

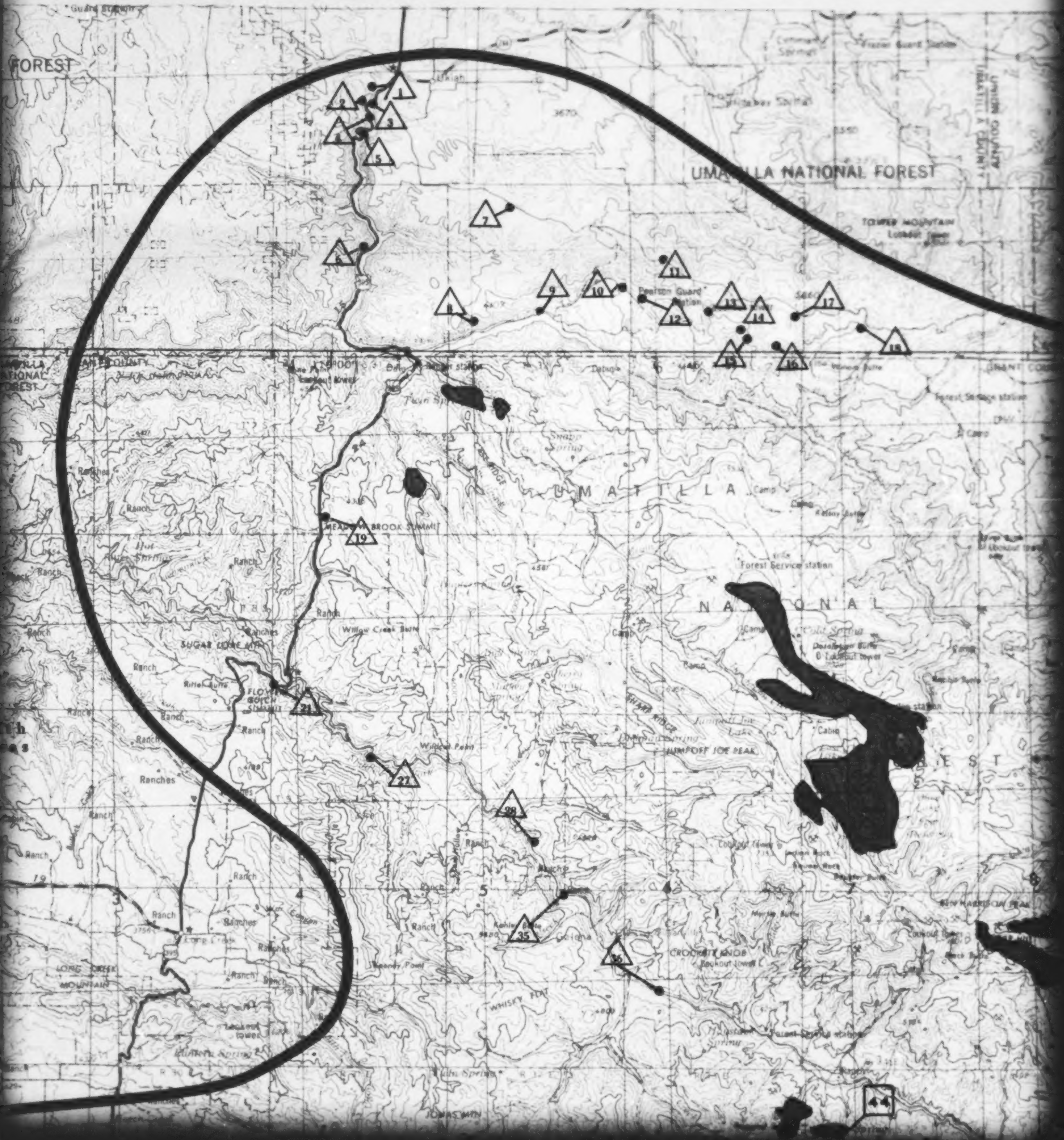

Central Point
Medford
Rogue
AGATE DESERT
Upper Table Rock
Lower Table Rock
MOUNT BALDY
STEAMBOAT MOUNTAIN
BOAZ MOUNTAIN
RIVER
NATIONAL
KLAMATH
WILLAMETTE MERIDIAN
383e
386e
400e
909e
582
R 11 W
123°00'

Prepared and Published by the Cartographic Section
of the Department of Geology and Mineral Industries

RECON


EXPLANATION
SERPENTINITE
serpentinite; includes some rock with additional alteration and a few areas of mafic rock locally.
102 STONE QUARRY
419 ASBESTOS DEPOSIT
STUDY AREA
UMATILLA NATIONAL FOREST
MADISON BUTTE
TEXAS BUTTE
Guard station
Lookout tower
TUPPER BUTTE
Tupper Corral
OPAL BUTTE
Cabin
LONG CANYON
RED HILL
MORROW COUNTY
WHEELER COUNTY
GRANT COUNTY
Forest Service station
NATIONAL
FOREST
Kingbolt Spring
MURPHY MTN
JOHNNY CAKE MTN
SLICKEAR MTN
KONGA MTN
TAMARACK MTN
LITTLE TAMARACK MTN
Ranch
Shack
Ranches
LONG CREEK MOUNTAIN
Hot Springs

RECONNAISSANCE MAP of SERPENTINITE


FOREST
Guard Station
Ukiah
Frazier Guard Station
UNION COUNTY
UMATILLA COUNTY
UMATILLA NATIONAL FOREST
TOWER MOUNTAIN
Lookout tower
Pearson Guard Station
GRANT COUNTY
Forest Service station
Twin Spgs
Snipe Spring
U M A T I L L A
N A T I O N A L
F O R E S T
MEADOW BROOK SUMMIT
Hot Springs
Willow Creek Butte
SUGAR LOAF MT
Ranch
Ranches
FLOYD BOYCE SUMMIT
Willow Point
JUMPOFF JOE PEAK
Jumpoff Joe Lake
Cold Spring
Lookout tower
CROCKETT KNOB
Lookout tower
WHISKY FLAT
LONG CREEK MOUNTAIN
Long Creek
Kahler Butte
Galena
Jonas Mtn
1
2
3
4
5
6
7
8
9
10
11
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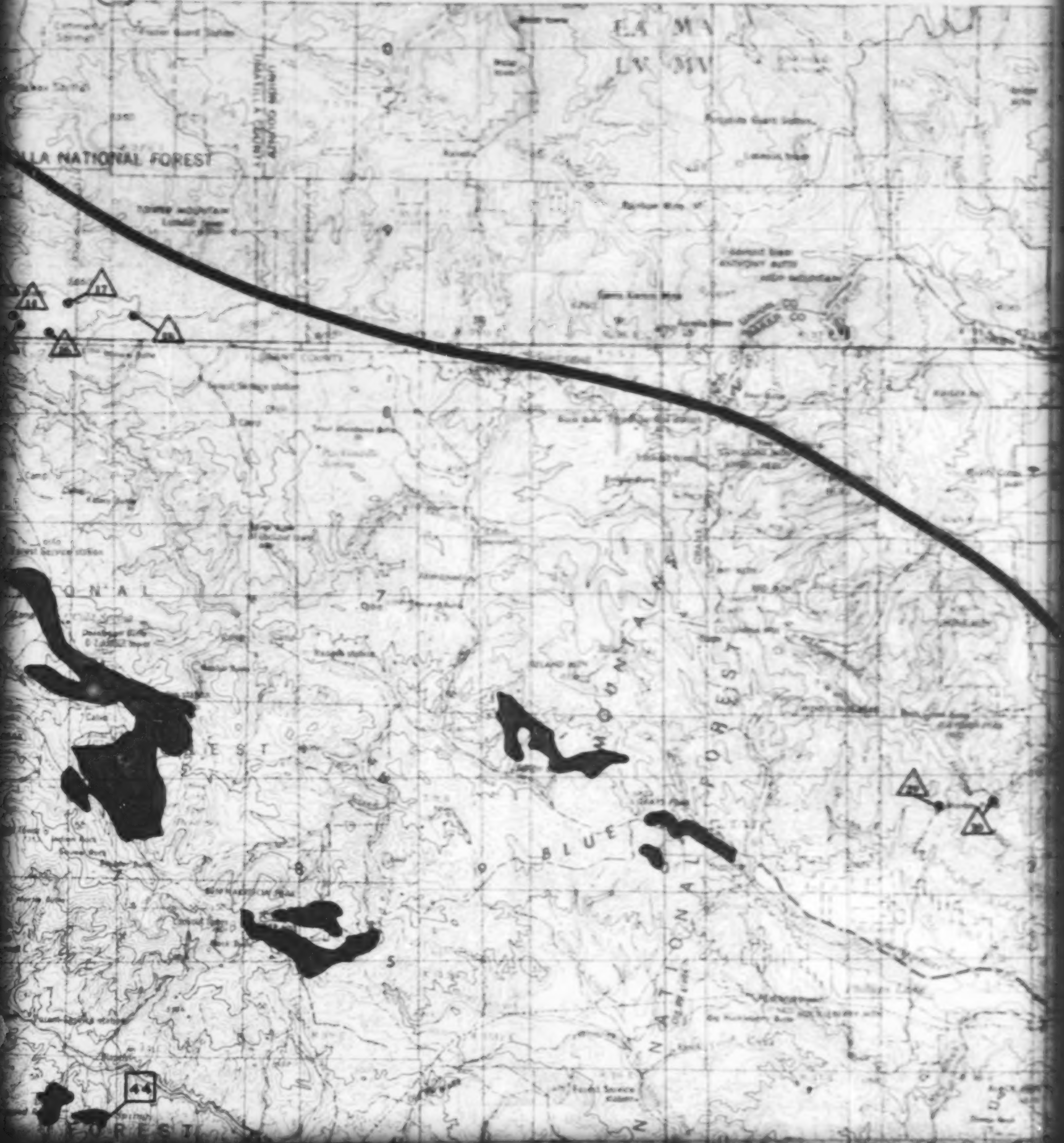
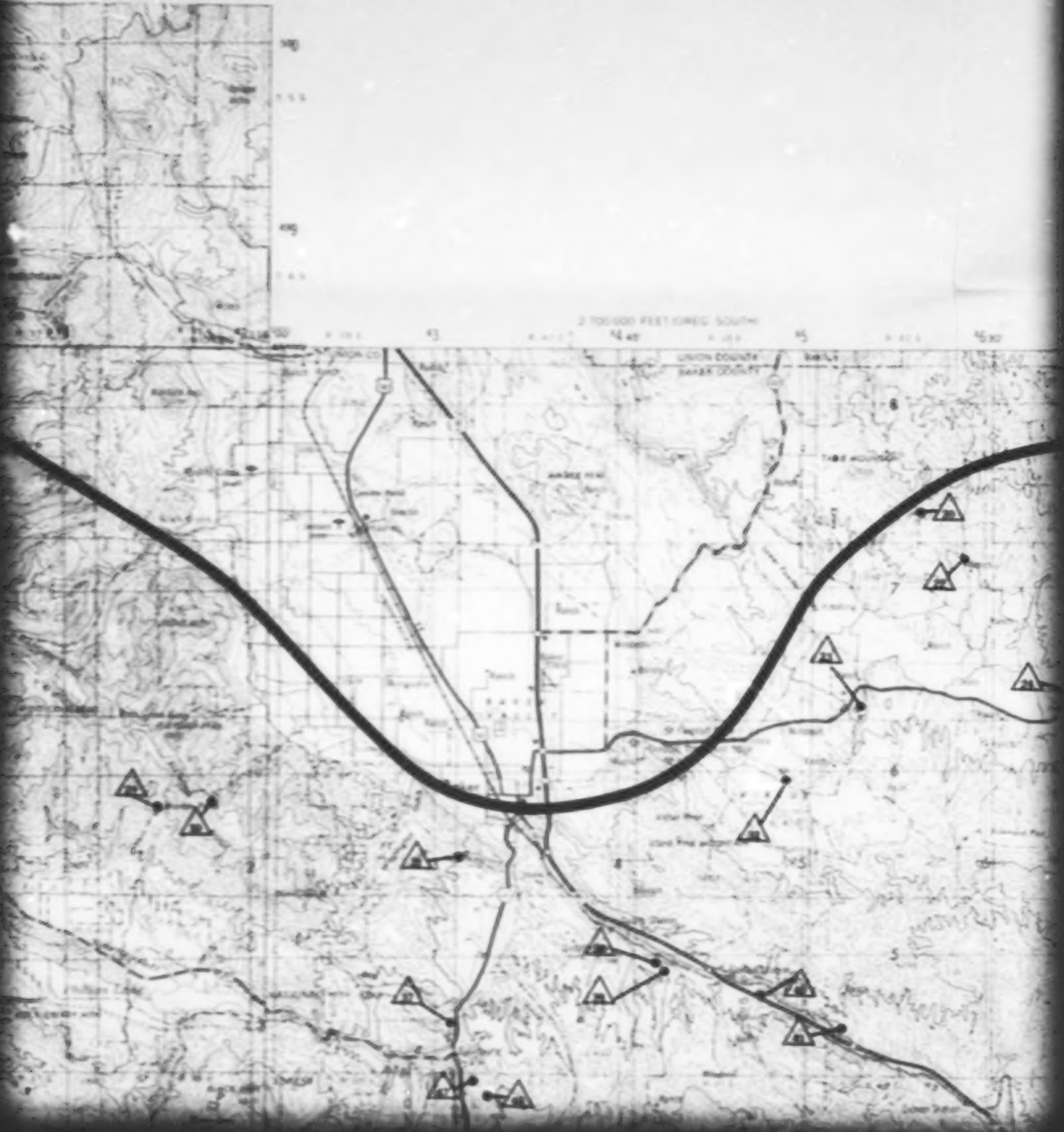
36
44

ERPENTINITE ROCK, ASBESTOS OCCURRENC

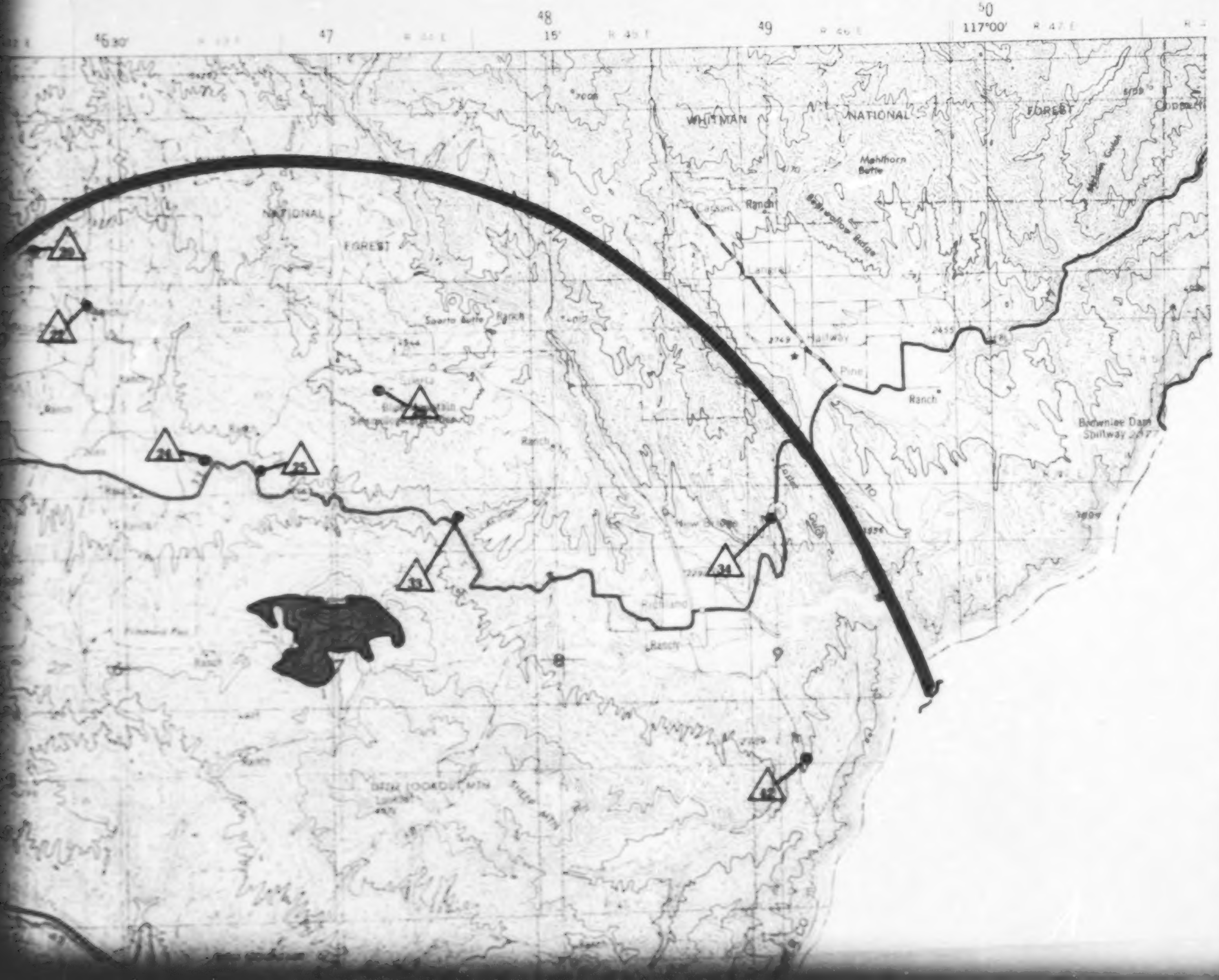

LLA NATIONAL FOREST
17
18
44
O N A L
E S T
B L U E
M O U N T A I N
N A T I O N A L
F O R E S T
7
8
F O R E S T

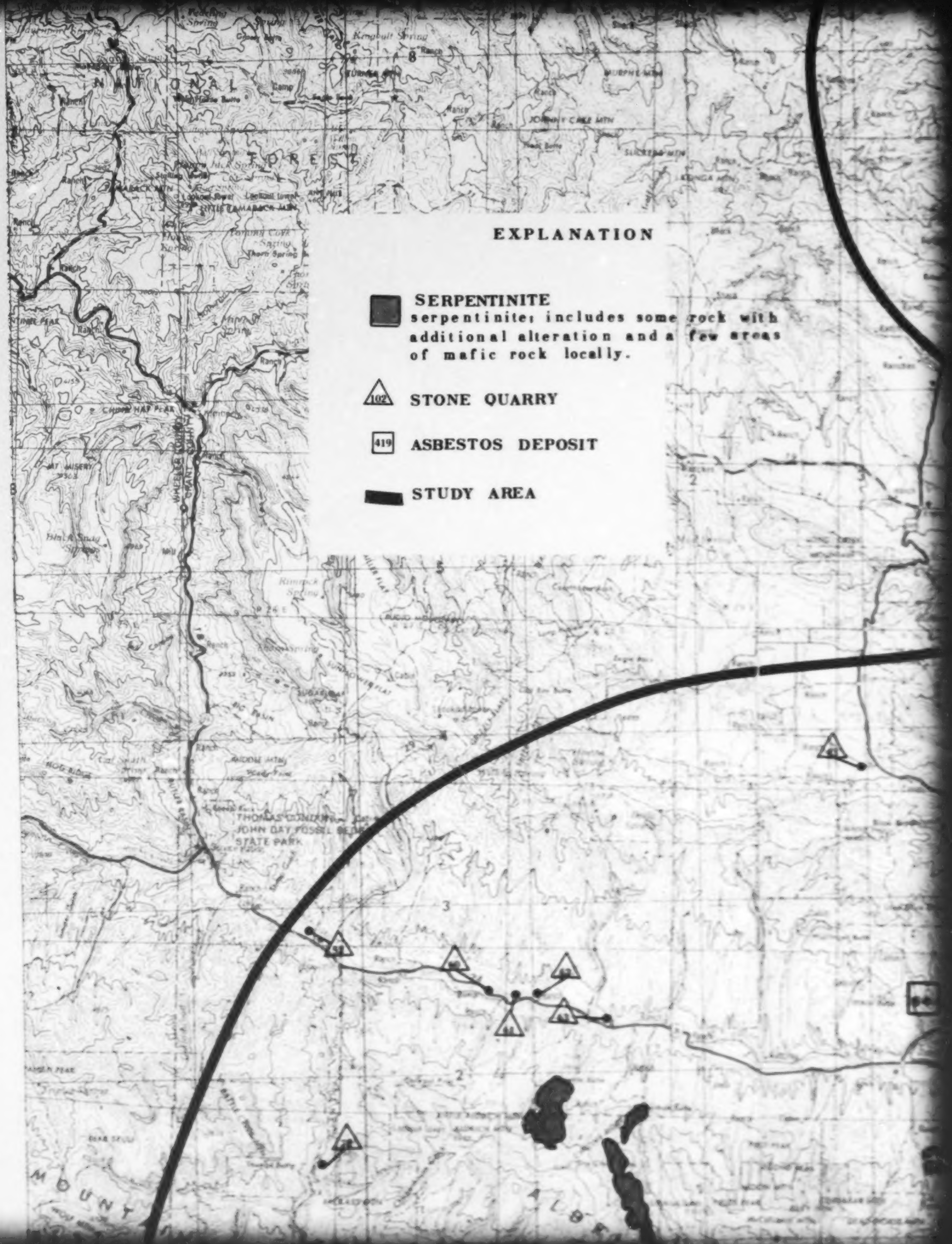
OCCURRENCES & NEARBY STONE QUARRIES

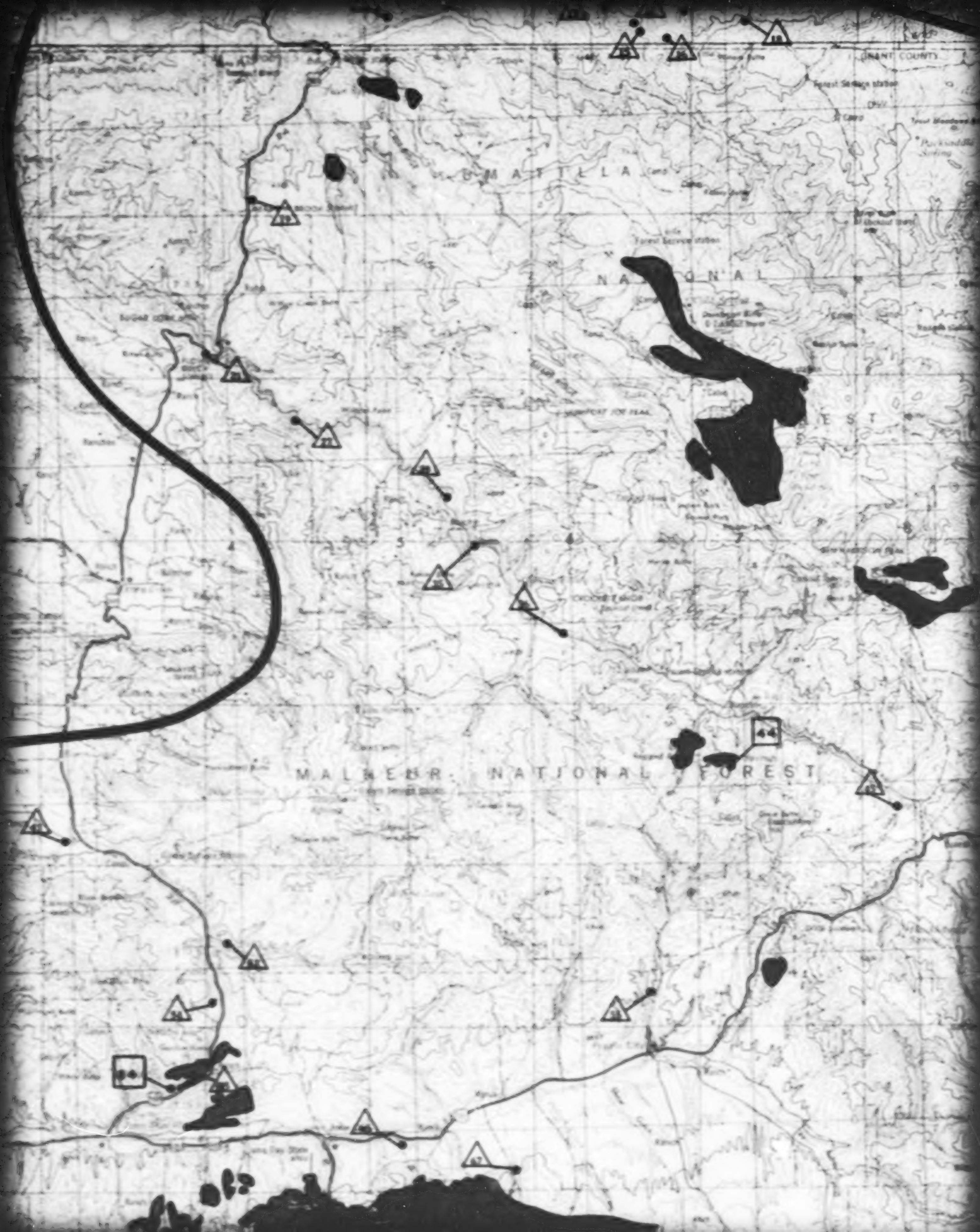

2 700 000 FEET (OREG. SOUTH)
UNION COUNTY
BAKER COUNTY
8
7
6
5

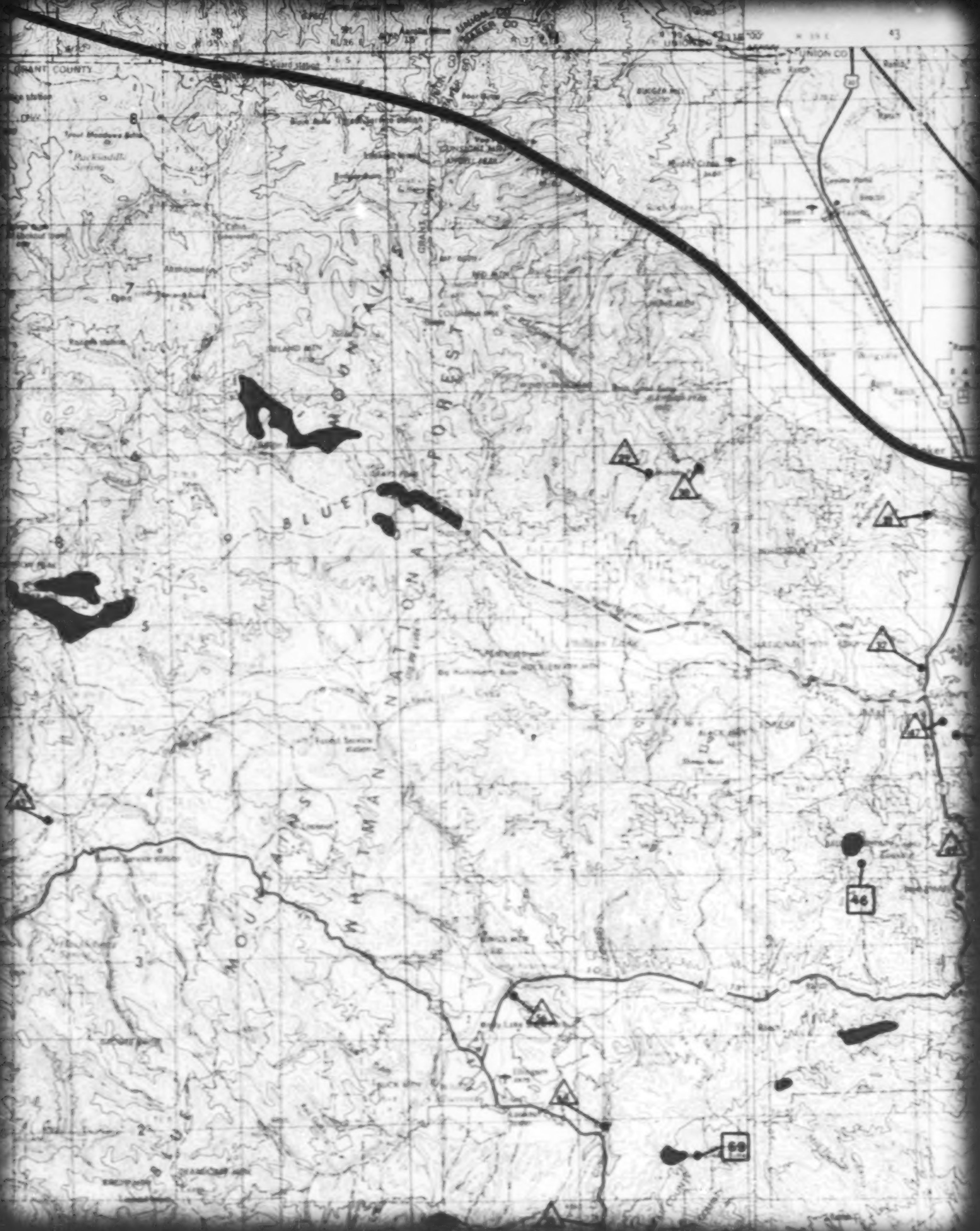
ARRIES of NORTHEASTERN OREGON

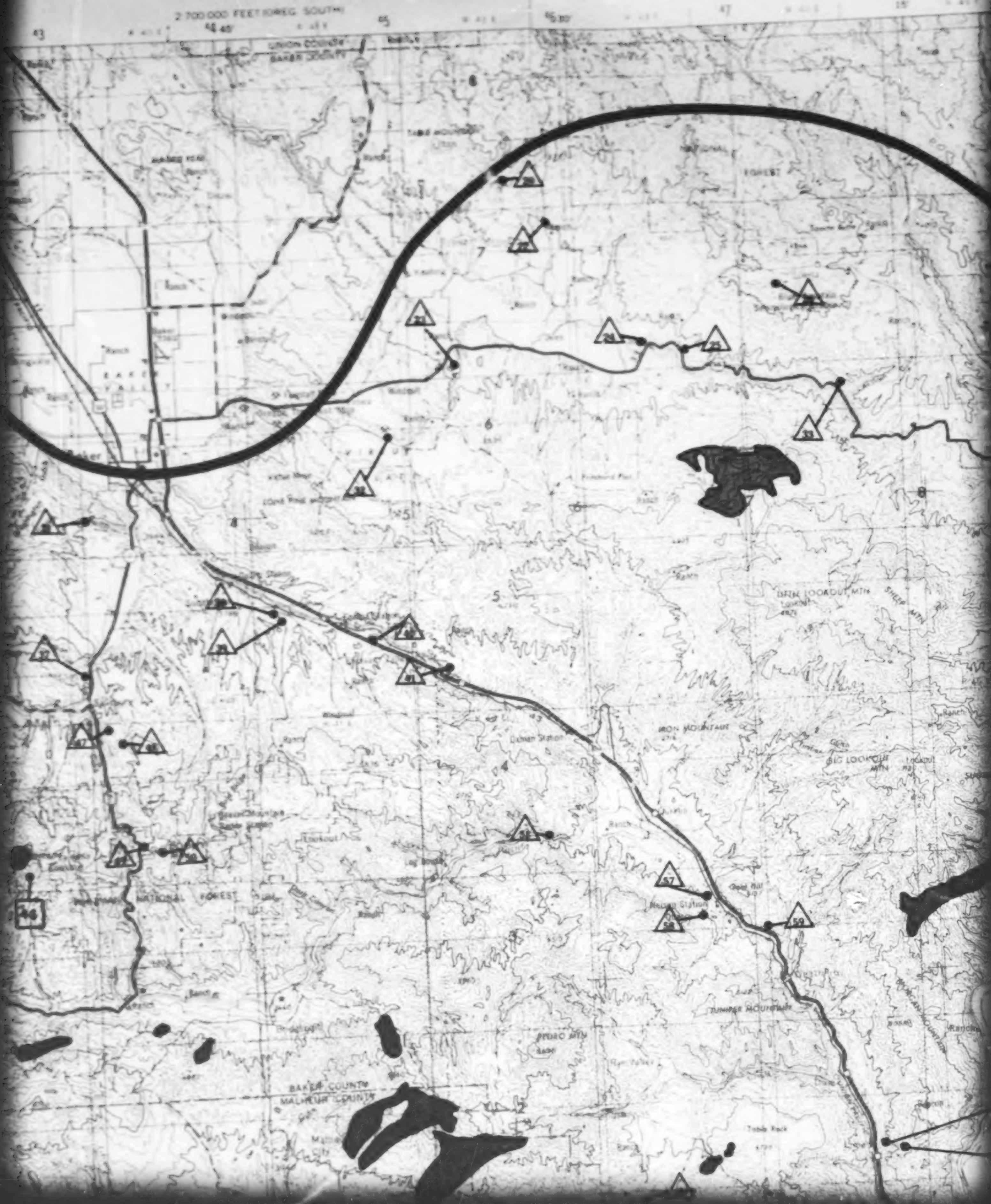
STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
DONALD A. HULL, STATE GEOLOGIST

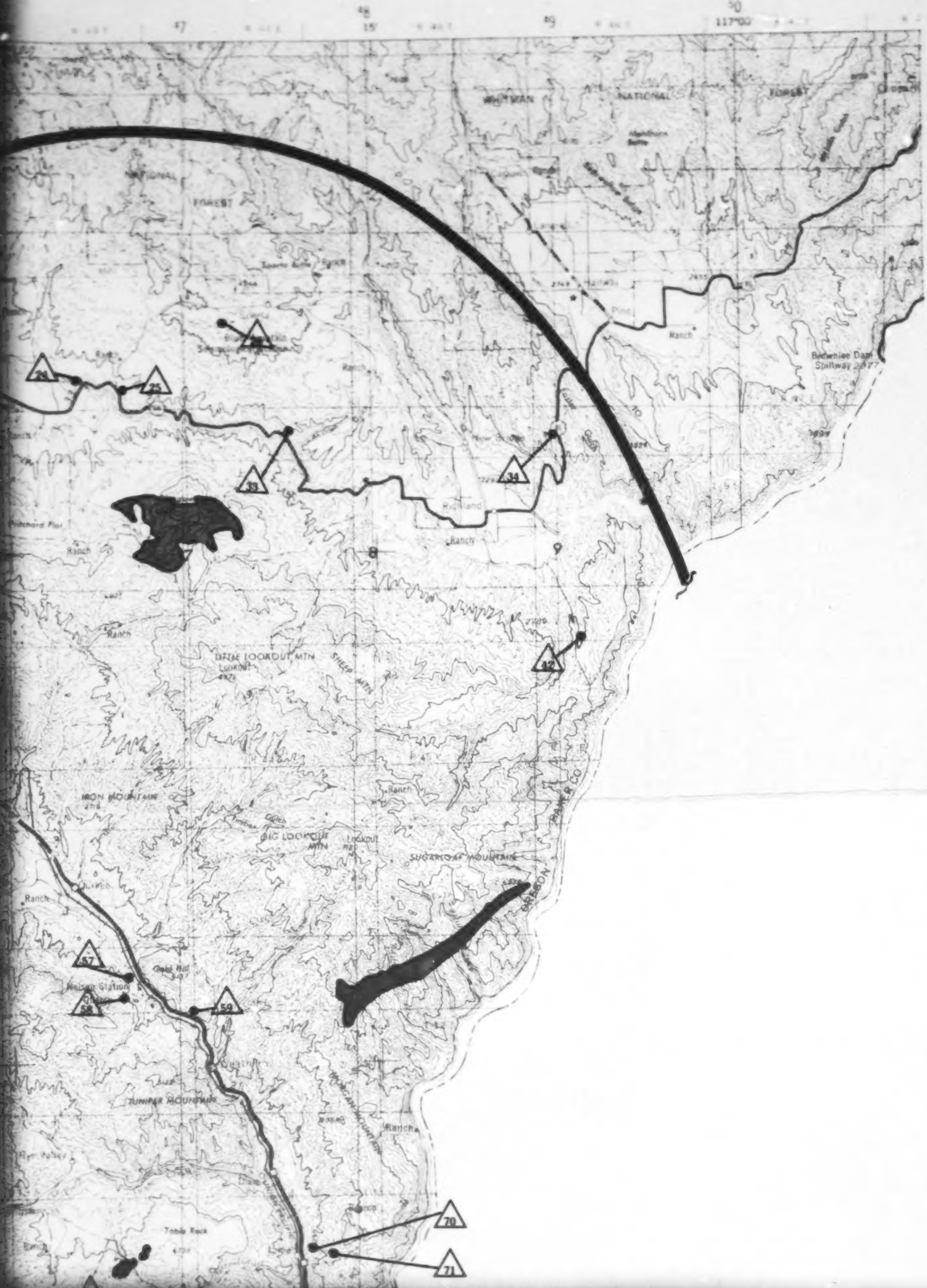

46
47
48
15'
49
50
117°00'
WHITMAN
NATIONAL
FOREST
Mehlhorn Butte
Ranch
Halfway
Pine
Ranch
Brownlee Dam Spillway
NATIONAL
FOREST
Sparta Butte
Ranch
Richland
Ranch
20
22
23
24
25
33
34
42
8
9

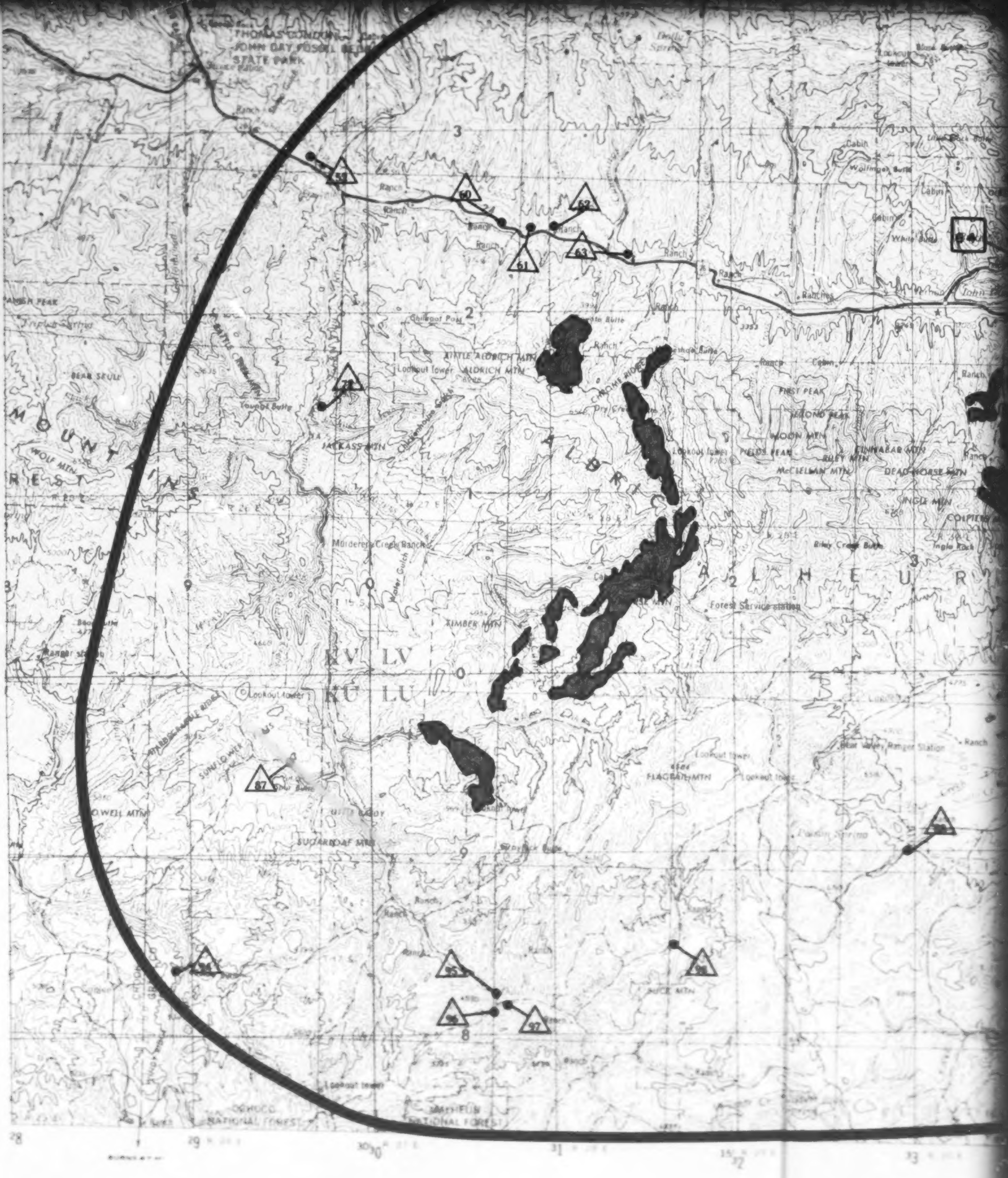

EXPLANATION
▇ SERPENTINITE
serpentinite; includes some rock with additional alteration and a few areas of mafic rock locally.
△ 102 STONE QUARRY
☐ 419 ASBESTOS DEPOSIT
▬ STUDY AREA
NATIONAL FOREST
JOHNNY CAKE MTN
TAMARACK MTN
LITTLE TAMARACK MTN
CHIMNEY PEAK
WHEELER COUNTY
GRANT COUNTY
Black Snag Spring
Rimrock Spring
SUGARLOAF
Big Basin
HOG RIDGE
Cal Smith Spring
THOMAS CONDON - JOHN DAY FOSSIL BEDS STATE PARK
MOUNT
ALD
8
5
2
3
2
19
26


GRANT COUNTY
UMATILLA NATIONAL FOREST
MALHEUR NATIONAL FOREST
44
64


GRANT COUNTY
UNION CO
BAKER CO
BLUE MOUNTAINS
WHITMAN NATIONAL FOREST
30
46
69


2 700 000 FEET (OREG. SOUTH)
43
45
47
48
UNION COUNTY
BAKER COUNTY
TABLE MOUNTAIN
NATIONAL
FOREST
BAKER VALLEY
7
6
5
4
8
20
22
23
24
25
33
37
40
41
46
47
49
50
56
57
58
59
IRON MOUNTAIN
BIG LOOKOUT MTN
Lookout
NATIONAL FOREST
JUNIPER MOUNTAIN
PEDRO MTN
BAKER COUNTY
MALHEUR COUNTY
Table Rock


47
48
15'
49
50
117°00'
WHITMAN
NATIONAL
FOREST
NATIONAL
FOREST
Pine
Ranch
Brownlee Dam
Spillway 2077
Richland
Ranch
LITTLE LOOKOUT MTN
Lookout
SHEEP MTN
IRON MOUNTAIN
BIG LOOKOUT MTN
Lookout
SUGARLOAF MOUNTAIN
OREGON
BAKER CO
Ranch
Nelson Station
Gold Hill
JUNIPER MOUNTAIN
Ranch
Table Rock
24
25
33
34
42
57
58
59
70
71


THOMAS CONDON - JOHN DAY FOSSIL BEDS STATE PARK
3
2
1
58
60
61
62
63
64
71
87
94
95
96
97
98
99
Ranch
LITTLE ALDRICH MTN
ALDRICH MTN
Lookout tower
JACKASS MTN
CHROME RIDGE
FIRST PEAK
SECOND PEAK
MOON MTN
FIELDS PEAK
McCLELLAN MTN
RUBY MTN
CINNABAR MTN
DEAD HORSE MTN
INGLE MTN
Murderers Creek Ranch
TIMBER MTN
Forest Service station
FLAGTAIL MTN
SUGARLOAF MTN
SUNFLOWER
POWELL MTN
WOLF MTN
BEAR SKULL
MOUNTAINS
ALDRICH
MALHEUR
KV LV
KU LU
OCHOCO NATIONAL FOREST
MALHEUR NATIONAL FOREST
28
29
30
31
32
33

Prepared and Published by the Cartographic Section
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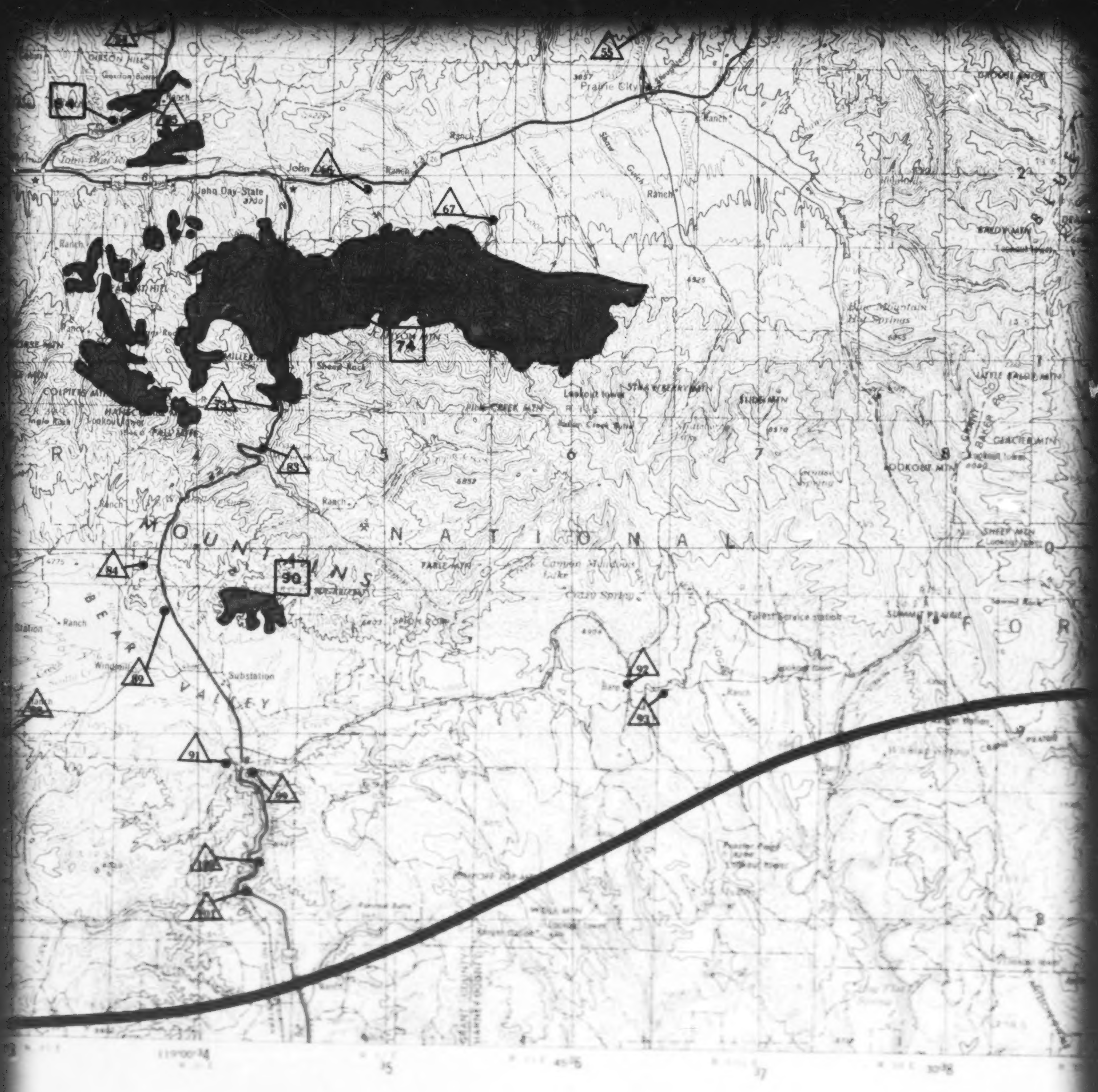
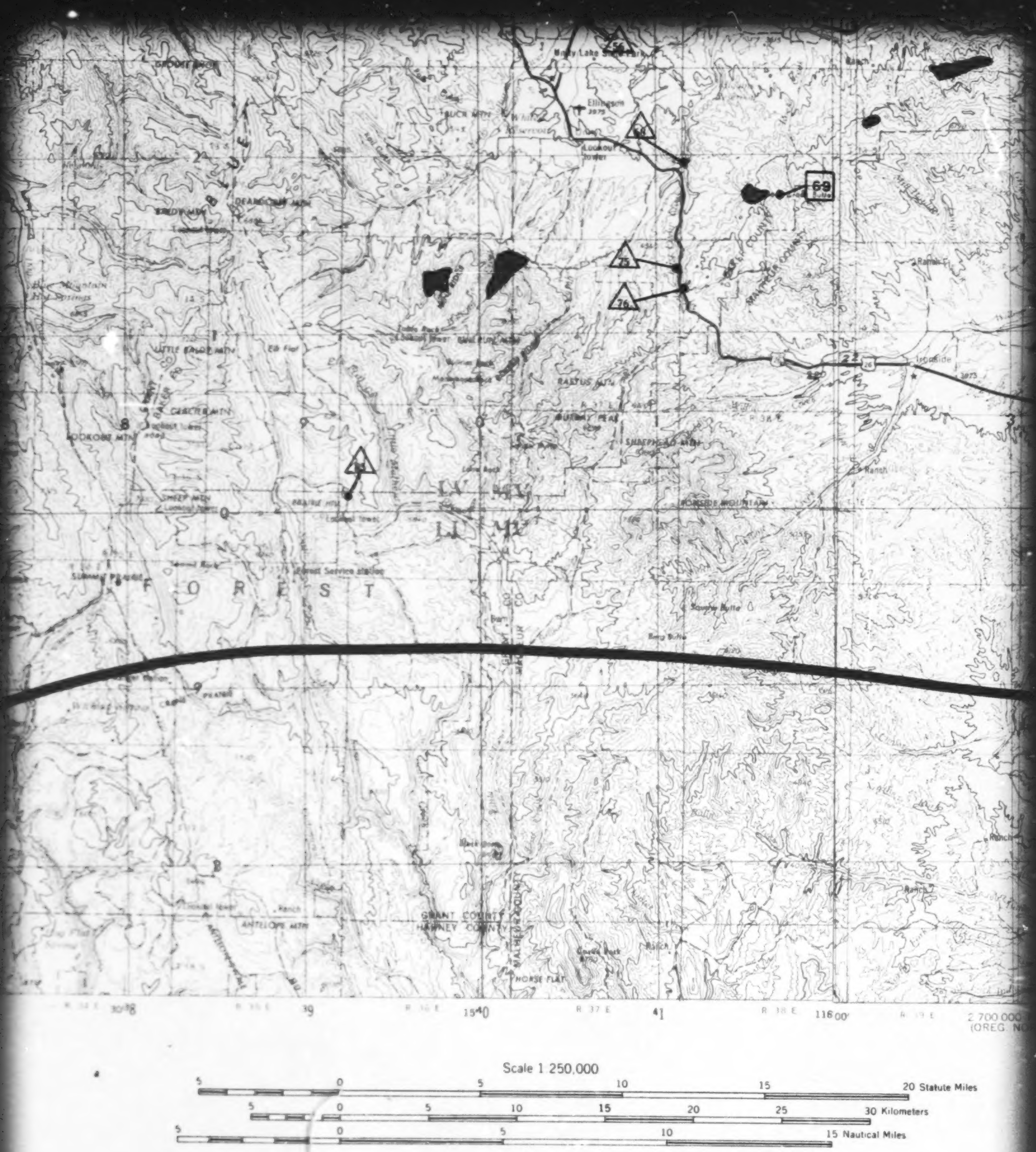
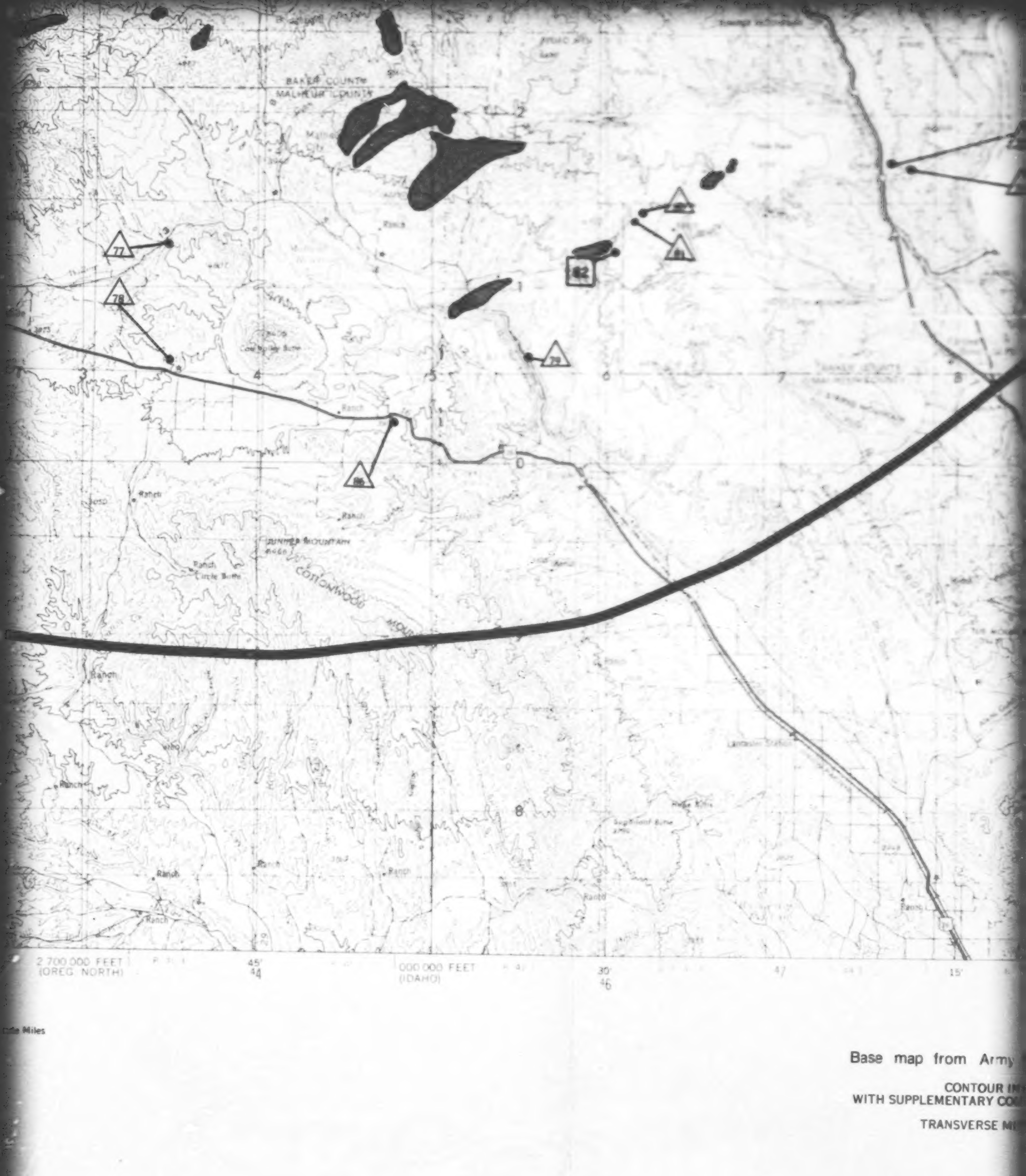
Geology By: Len Ramp



55
Prairie City
GIBSON HILL
Gordon Butte
Ranch
John Day
John Day-State
3700
66
67
Ranch
4925
Blue Mountain
Hot Springs
BALDY MTN
Lookout tower
LITTLE BALDY MTN
GLACIER MTN
LOOKOUT MTN
SHEEP MTN
74
JEFFERSON MTN
Sheep Rock
MILLER MTN
COLPITTS MTN
Lookout tower
73
PINE CREEK MTN
STRAWBERRY MTN
SLIDE MTN
Indian Creek Butte
R
4
5
6
7
8
83
6852
Ranch
MOUNTAINS
NATIONAL
FOR
84
90
TABLE MTN
Canyon Meadows
Lake
Crazy Spring
SPION KOP
Forest Service station
SUMMIT PRAIRIE
BEAR
VALLEY
Substation
Windmill
Station
Ranch
89
92
93
88
91
99
Ranch
100
101
119°00'
15
45°5
17
30'
8


56
60
69
75
76
Lookout tower
DEARBORN MTN
BLUE
LITTLE BALDY MTN
SHEEP MTN
Lookout tower
PRAIRIE HILL
Forest Service station
F O R E S T
RASTUS MTN
SHEEPHEAD MTN
IRONSIDE MOUNTAIN
Ironside
Ranch
ANTELOPE MTN
GRANT COUNTY
HARNEY COUNTY
MALHEUR COUNTY
HORSE FLAT
R 34 E
39
R 35 E
R 36 E
15'40
R 37 E
41
R 38 E
118°00'
R 39 E
2 700 000
(OREG. NO
Scale 1:250,000
5 0 5 10 15 20 Statute Miles
5 0 5 10 15 20 25 30 Kilometers
5 0 5 10 15 Nautical Miles

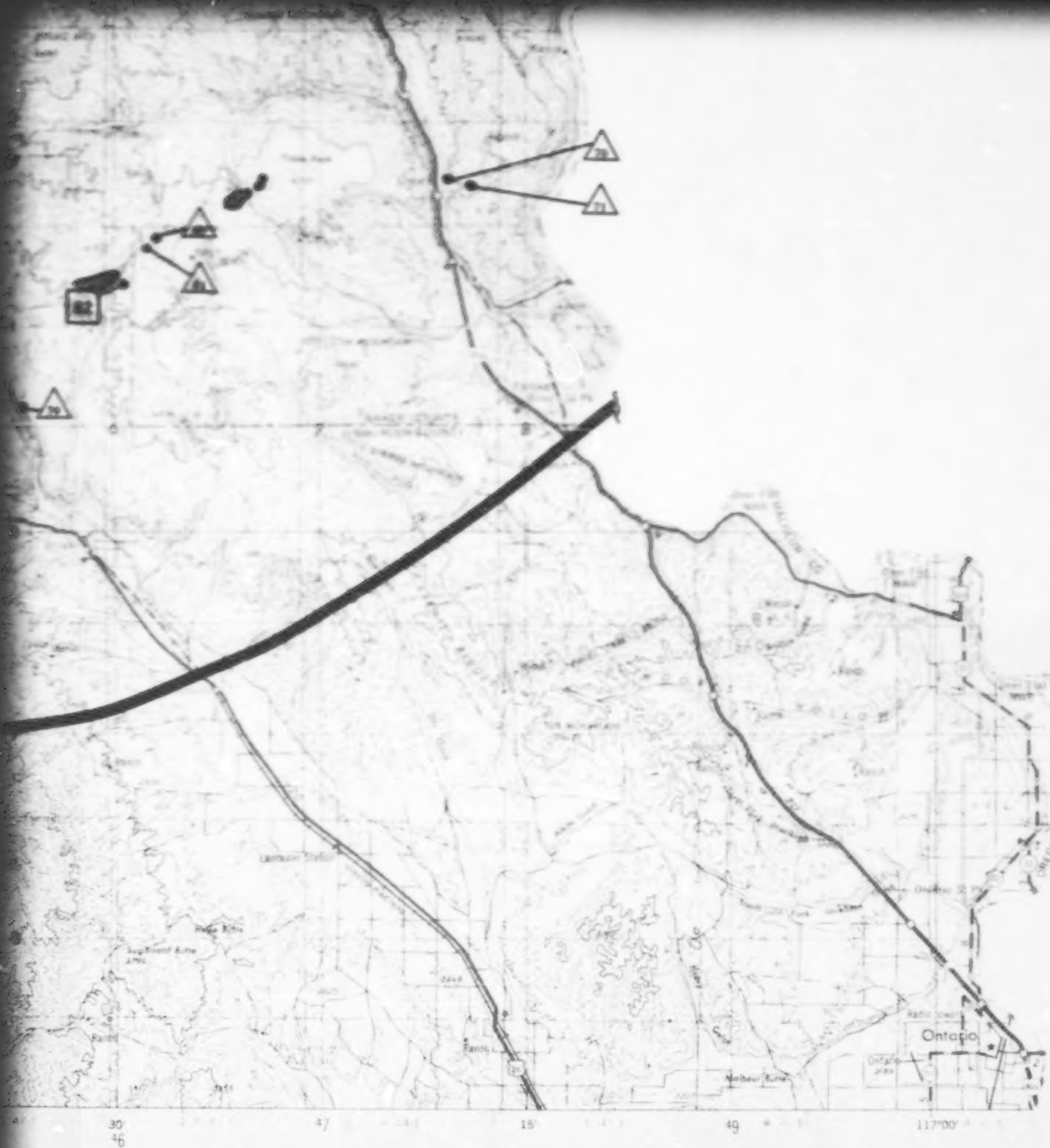

BAKER COUNTY
MALHEUR COUNTY
77
78
79
80
81
82
86
Ranch
Cow Valley Butte
JUNIPER MOUNTAIN
COTTONWOOD MOU
Circle Butte
BAKER COUNTY
MALHEUR COUNTY
Lantasin Station
Sugarloaf Butte
1
2
3
4
5
6
7
8
0
8
2 700 000 FEET
(OREG. NORTH)
45'
44
000 000 FEET
(IDAHO)
30'
46
47
15'

ute Miles

Base map from Army

CONTOUR IN
WITH SUPPLEMENTARY CO

TRANSVERSE M


82
79
Ontario
Radio tower
MALHEUR CO
OREGON
IDAHO
30'
46
47
15'
49
117°00'

Base map from Army Map Service (Topographic)

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

TRANSVERSE MERCATOR PROJECTION